

# AMERICAN RAILROAD JOURNAL, AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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D. K. MINOR, EDITOR.]

SATURDAY, MARCH 5, 1836.

[VOLUME V.—No. 9.]

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## AMERICAN RAILROAD JOURNAL.

NEW-YORK, MARCH 5, 1836.

**REMOVAL.**—The Office of the RAILROAD JOURNAL, NEW-YORK FARMER, and MECHANICS' MAGAZINE, is removed to 132 Nassau street, opposite CLINTON HALL, and two doors below Beekman street.

Will those Editors to whom the Journal is sent, do me the favor to notice this removal, send their papers in exchange, and request the friends of the Periodicals in the country to direct their orders to me at 132 Nassau street.

The favor shall be reciprocated at any and all times, by

D. K. MINOR.

March 22, 1836.

We have received the papers mentioned in the subjoined extract of a letter from A. A. DEXTER, Civil Engineer, for which we are much obliged to him. We shall make use of them as soon as possible.

"Railroad Office, Montgomery, Ala.,  
"March 4, 1836."

"I transmit in the same mail with this two newspapers—one containing the proceedings of the Railroad Convention of this State, and my Report to the same, and the other containing my Report on the

survey of the Demopolis and Woodville Railroad, in the southwestern part of this State. This latter work will probably be commenced shortly—and the great Mobile and Tennessee Railroad, having been chartered on liberal principles, will be carried through, without the least question. The Montgomery and Chattahoochee Railroad is now in progress of construction from this place to West Point, Geo.—about 40 miles are under contract, for grading and bridging. For these 40 miles, the profile is probably superior to that of any Railroad in the United States of a similar distance—as the maximum rate of inclination is only 13 feet to the mile, except in two instances, where for a short distance a rate of 20 feet to the mile is adopted. The estimate of the cost of graduating these 40 miles is only \$110,000, and the work has been taken within the estimates. Our stock (\$800,000) is all taken—\$100,000 by the Corporation of Mobile City—and the graduation of the first 40 miles is to be completed in 12 months. We expect to be met at West Point by the Georgia Railroad from Augusta—and I hope in a few years to see a complete line of Railroad in operation between this place and Charleston, South Carolina.

"I have lately completed the survey of the route of the Benton and Haysville Railroad, (13 miles in length,) about 24 miles south of this place. Route very favorable, and work likely to go on."

To the Editor of the Railroad Journal:

Having accidentally turned my telescope to the sun on Wednesday last, (March 16,) I found a spot on its surface, of considerable magnitude.

I have observed it since at intervals, and find that it has increased. A second small one was formed, and yesterday I observed a third.

They are now near the N. W. limb of the sun.

The most northerly one is well defined, and elongated, resembling Saturn and its rings, when seen through a telescope of inferior power.

The middle one is well defined, and nearly circular.

The most southerly one is quite large, and irregular. The main portion of it is curved toward the second spot, a bright point being within.

Between these last two, numbers of smaller spots are sprinkled. The Umbra extends around the three.

The width varies; the length, measured by different methods and instruments, is 2' 45". The spots must therefore extend in the direction of their length, over 75,000 miles of the sun's surface.

They change continually.

As they are near to the sun's western limb, a very interesting view of them may be had when they disappear in a few days. It is for this purpose that I call attention to them, as those fortunate enough to possess better instruments than mine, may be enabled to give us some new light on this subject.

Should any of your readers observe these spots, I would be much pleased to ascertain the result through the medium of your Journal.

G. C. S.

New-York, March 21, 1836.

## LABOR-SAVING INVENTIONS.

In a former number on this subject, I came, I believe, by natural inferences drawn from correct premises, to the conclusion that the various labor-saving inventions of the present day were not injurious to society; and that, instead of injuring the poor by depriving them of labor, which is their only means of subsistence, they improved their condition, by rendering their labor infinitely more profitable to the employer, and thereby not only supplying him with the means to feed and employ greater numbers, but exciting in him the stronger disposition to do it, in proportion as the profits on the work of each laborer will be greater. I stated also, in concluding the last number, that I had not done with the subject, and pledged myself not to quit it till truth and reason shall determine in favor of one side or the other.

That labor-saving inventions are injurious



to the poor, by depriving them of labor, their only means of procuring subsistence, is either true, or it is not true. If not true, then the person whose deep and patient study, and whose persevering toil produces those inventions, is richly entitled to an adequate reward. But if true—if these inventions serve merely to aid the monopolizer and to oppress and starve the poor, then it is the duty of every honest man in society, not only to discountenance them, but to do all in his power to destroy them, or at least to bring them into utter disuse.

As I have stated in a former number, the fairest way to decide this important question is to admit alternately, both sides, and on the ground of this admission, pursue each side to where it will naturally terminate, and then compare the results.

In the former number, I commenced and pursued that course, so far as relates to some of the most prominent modern inventions, such as the steamboats, canals and railroads, and the spinning and weaving by machinery. But as I have there stated, there is no stopping place: if one labor-saving invention is a curse to the poor, they are all so, and if they are a curse now, they were always curses—if any inventor of a labor-saving machine now deserves execration for so doing, every inventor, from time immemorial, was guilty of a most criminal offence, and ought to have suffered accordingly. I have already premised the destruction of the steamboats, the canals and railroads, and we will now suppose ourselves to have no other means of artificial locomotion than wheel carriages or other vehicles drawn by horses, oxen, or other domesticated animals. The entire apparatus for spinning and weaving by artificial mechanical power, we are also now to suppose destroyed or laid aside, and the farmers' wives and daughters manufacturing their own linsy-woolsy, as heretofore, with their own spinning wheels and looms.

But the case is not decided. We are to have no labor-saving machines. Not only the wheel carriages but the wheel and the loom are wicked labor-saving inventions. The carriage wheel was a most atrocious labor-saving invention; and so, ladies and gentlemen, who are riding in coaches, you must immediately disembark, and take some more harmless mode of conveyance. The invention of wheels must, no doubt, have thrown thousands of poor laborers out of employment, and left their families starving. No matter how long the offence has been committed; it is still unatoned for, and the longer it has been in use, the greater is the accumulation of guilt. The farmer, also, must, for the same reasons, discharge the wheels from his cart or wagon. If the travellers wish to be carried, they must hire poor men to carry them in a palanquin or on a litter—for they cannot now be allowed even to ride on horseback, as catching and domesticating the horse and other wild animals, and teaching them to labor, was evi-

dently a labor-saving invention, and was transferring the labor from poor men to beasts. And if the farmer has any thing to carry to market, he must carry it himself, or employ his poor neighbors to do it. But as the farmer must now dispense with the use of the plough, the spade, the axe, and nearly all his implements of husbandry, they having all been, at some time or other, labor-saving inventions, he will, therefore, have little or nothing to carry to market. The spinning wheel and the loom, and all the ingenious labor-saving inventions by which the various fabrics for clothing are now made, must share the same fate. Both spinning and weaving were once performed, and in several parts of the world are still performed, in ways which would give employment to fifty poor people to do what would now be done by one wheel or one loom.

When we have brought the traveller, the farmer and the manufacturer of articles for clothing, to a proper sense of their duty, and they have discarded all those hateful monopolizing inventions, by which the poor are doomed to idleness and starvation, let us next turn our attention to that most pernicious of all other inventions, the printing press. So base a thing was this encroachment upon the ancient rights of those worthy people who obtained a respectable living by writing books, or rather long rolls of parchment, that the inventor was declared not only to be moved and instigated by the devil, but in absolute league with him, and was dealt with accordingly. When we have destroyed the press, the next business in course will be to destroy all the printed books, in order to restore business to those who would be employed to write them, as they were formerly, in manuscript rolls. And when we have done all this; when we have not only destroyed the press and its productions, but all the labor-saving machines and implements of the farmer and the manufacturer, let us review the subject, and see what will be the state of society, and what benefits will result to the poor.

In this state of things, labor of the most industrious man would not yield him one half of what we now consider the necessities of life. The rich, so long as they remained rich, would indulge themselves in the comforts and luxuries of life, but they would have to import them from foreign countries, for they could not be made here; and as they would have nothing to export but cash, their wealth would be constantly diminishing. They could not afford to cultivate their lands any farther than was necessary to a bare subsistence, because nothing they could produce would pay the cost of producing. They could not let out their lands to the poor to work either on shares or on hire; for the whole of what the poor man could raise would scarcely keep himself and family alive, and he would have no means to pay rent, and therefore could not hire. In a few years, the land, but little of

which could be cultivated, would become useless, except for hunting ground; the rich would become poor, and the poor would become inured to want and hardships. In a very few centuries, the country would be in the same state the aborigines were in when this country was discovered. In short, the whole ground by which this or any other civilized country differs from the state in which aboriginal America was discovered, is solely the result of labor-saving inventions.

The advocates of the anti-labor-saving doctrine will perhaps say, "This is a mere assertion, we want better proof, before we can be convinced." I will endeavor, then, to give the best proof the nature of the case will permit, and I think the best they can possibly require. "Facts are stubborn things," and to their decision I will refer each part of the subject. I shall begin with the modes of conveyance of persons and property, and proceeding to modes of agriculture and modes of manufacturing, shall appeal to examples in each case, to show what has been the effect of labor-saving inventions.

With respect to travelling and conveying property, every thing that relates to it naturally comes under the same head. An improved public road, a turnpike road, a railroad, a canal, or a steamboat, are all equally entitled to be classed as labor-saving inventions. In each of these, our own country affords innumerable illustrations of the effect they have in giving labor to the poor, rather than taking it away from them. In constructing turnpikes and railroads, and in digging canals, more laborers have been employed and paid in the United States, within thirty years, than were ever employed in this country before, since its first settlement; or than would be employed in one or perhaps two centuries to come, had no such work been undertaken; and could any mode be contrived to increase the effect of such labor—could any means be invented by which one man could remove as much earth in a given time as two can now remove; instead of lessening the number of laborers, it would increase them, because in proportion as such improvements could be effected cheaper, many more would be undertaken. Before the Erie Canal was commenced, such works were by most people in our country, as well as in most others, considered visionary and impracticable. The chief demand for labor then, was to aid the farmer who had a little more land than he and his sons could till; and who happened to live near some city or seaport, where his produce would command money to pay for such labor. If he lived far from market, his effects would not pay for carrying to market, and therefore he could not hire. Now, hundreds of thousands of laborers are employed in constructing public improvements; and those improvements not only increase the demand for provisions, as the laborers must all be fed, but they open a market to the most remote farmer, and



thereby increase the demand for agricultural labor.

In the year 1827, the clamors of laborers and others against labor-saving improvements, attracted the attention of the British House of Commons, and a committee was appointed to investigate the subject. From their report I shall offer some extracts, which I think, if any doubts remain on the subject, after what evidence this country affords, must remove them.

"In the Highlands of Scotland, at the beginning of the present century, the communication from one district to another was attended with such difficulty and danger that counties were excused from sending jurors to the circuit, to assist in the administration of justice. The poor people inhabiting those districts were certainly cut off from intercourse with the rest of mankind. The Highlands were of less advantage to the British empire than the most distant colony. Parliament resolved to remedy the evil; and accordingly, from 1802 to 1817, the sum of two hundred thousand pounds was laid out, in making roads and bridges in these mountainous districts. Mark the important consequences to the people of the Highlands, as described by Mr. Telford, the engineer of the roads."

"In these works, and in the Caledonian Canal, about three thousand two hundred men have been annually employed. At first, they could scarcely work at all; they were totally unacquainted with labor; they could not use the tools; but they have since become excellent laborers; of that number we consider one fourth annually left us, taught to work. These works may be considered in the light of a working academy, from which eight hundred have annually departed, improved workmen. These men either returned to their native districts, having had the experience of using the most perfect sorts of tools and utensils, (which alone cannot be considered as less than ten per cent. on any labor,) or they have been usefully disseminated throughout other parts of the country. Since these roads have been made accessible, wheelwrights and cartwrights have been established, the plough has been introduced, and improved tools and utensils are used. The plough was not previously used in general; in the interior and mountainous parts they frequently used crooked sticks with iron on them, drawn or pushed along. The moral habits of the great mass of the working classes are changed; they see that they may depend on their own exertions for support; this goes on silently, and is scarcely perceived, until apparent by the results. I consider these improvements one of the greatest blessings ever conferred upon any country."

"There are many parts of Ireland which would in the same miseries and inconveniences from the want of roads as the Highlands of Scotland did at the beginning of the present century. In 1823, Mr. Ninnes, the engineer, stated to Parliament that the

fertile plains of Limerick, Cork and Kerry, were separated from each other by a deserted country, presenting an impassable barrier between them. This country was the retreat of smugglers, robbers and culprits of every description. According to another engineer, Mr. Griffith, this tract, in 1824, was a wild and deserted country, without roads, culture or civilization. The government ordered roads to be made through this barren district. In 1829, in less than five years after the commencement of the roads, Mr. Griffith thus describes the change that had been produced:

"At the commencement of the works the people flocked into them; seeking employment at any rate; their looks haggard, their clothing wretched; they rarely possessed any tools or implements, beyond a small, ill-shaped spade; and nearly the whole face of the country was unimproved. Since the completion of the roads rapid strides have been made. Upwards of sixty new limekilns have been built; carts, ploughs, harrows, and improved implements have become common; new houses of a better class have been built, new enclosures have been made, and the country has become perfectly tranquil, and exhibits a scene of industry at once pleasing and remarkable. A large portion of the money received for labor has been husbanded with care, and laid out in building substantial houses, and in the purchase of stock and agricultural implements; and numerous examples might be shown of poor laborers, possessing neither money, houses nor lands, when first employed, who, in the past year, have been able to take farms, build houses, and stock their land."

Another witness, Mr. Kelly, thus describes their condition, before and after the roads were made—"At Abbyeale and Brans, above half the congregation at mass on Sundays were barefoot and ragged, with straw hats of their own manufacturing, felt hats being worn only by a few. Hundreds, or even thousands of men could be got to work for sixpence a day, if it had been offered. The farmers were mostly in debt, and many families went to beg in Tipperary and other parts. The condition of the people is now very different; the congregations at the chapels are now as well clad as in other parts; the demand for labor is increased, and a spirit of industry is getting forward, since the new roads have become available."

"But there are people who can understand the value of a road, who cannot perceive that of a steam-engine. Let us see what the steam-engine does for communication."

"The establishment of steamboats between England and Ireland has greatly contributed to the prosperity of both nations. How have steamboats done this? They have brought the people closer together. They have made the closely packed millions of people who live in the country round

Liverpool, the neighbors of the small farmers and peasants who live amongst the rich valleys of Ireland. The steamboat has given cheaper food and more of it to the manufacturers on the banks of the Mersey, and cheaper clothes and more of them to the laborers on the banks of the Shannon."

Mr. Williams (who gave his evidence last year to Parliament on the condition of the poor people in Ireland) says—"Before the steamboats were established, there was little trade in the smaller articles of farming production, such as poultry and eggs. The first trading steamboat from Liverpool to Dublin was set up in 1824. There are now 40 such boats between England and Ireland. The sailing vessels were from one to two or three weeks on the passage. The voyage from Liverpool to Dublin is now performed in fourteen hours."

Many millions of eggs, collected among the very poorest classes by the industry of women and children, are annually sent from Dublin to Liverpool. Mr. Williams has known fifty tons, or eight hundred and eighty thousand eggs shipped in one day, as well as ten tons of poultry; and he says this is quite a new creation of property. It is a creation of property that has a direct tendency to act upon the condition of the poorer classes in Ireland; for the produce is laid out in providing clothes for the females, and children of the females, who engage in rearing poultry and collecting eggs. Thus the English manufacturer is bettered, for he has a new market for his manufactures, which he exchanges for cheap provisions; and the dealer in poultry and eggs has a new impulse to this branch of industry, because it enables him to give clothes to his wife and children.

I might extend the quotation of facts in evidence of the benefits resulting to the poor from the introduction of labor-saving inventions, almost to infinity; but the mind that would not be convinced by what I have already said and what I have quoted, would not be so by any means short of miraculous interposition. I shall in my next number endeavor to show from reasoning, and from facts, what have been the effects of such inventions in the manufacturing interest, as to depriving the poor of labor, or of increasing their labor and benefiting their condition. S. B.

#### MACHINE FOR MAKING WROUGHT NAILS.

Our readers will recollect notice having been given, some time since, of a machine having been invented for the above purpose, by Mr. Simon Fairman, and therefore, to announce the same thing again requires an explanation. That explanation is as follows: Nearly two years ago, Mr. Fairman invented and constructed a machine for making wrought nails. This machine actually produced the effect of making wrought nails, and he sold the machine, together with the right of obtaining a patent. But it was an expensive and rather complicated machine

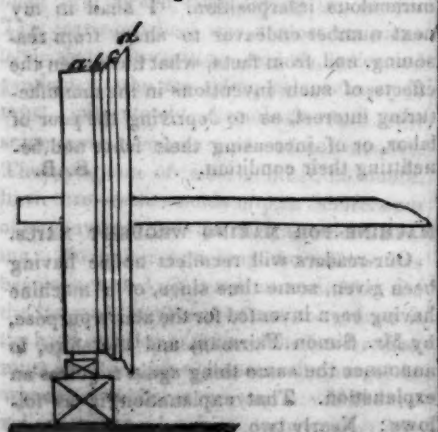


and we believe the purchaser thought it would cost more to keep it in order than would be gained by the profits, and therefore never attempted to put it in use.

But many of the most valuable improvements have been come at by approximation, and having pursued a wrong course, often enables an inventor to discover a better, until, by successive trials, he attains the desired effect. And so it proved with Mr. F. in this case. His first machine suggested to him another and a better plan, which he commenced putting in practice, but before he had completed it, his ever active mind suggested another plan, entirely different from, and infinitely more cheap and operative than either of the former. This he has now completed, and if there is any perfection in the arts, we should think a specimen of it was exhibited in this machine. Every part of the machine appears to be reduced to its lowest terms of simplicity, and with a degree of operativeness which cannot fail to do its duty—and is scarcely liable to disorder until its parts, which are constructed with great strength, shall be worn out in actual service.

We saw it in operation, making at the rate of about forty nails per minute, and to say they were handsome nails, would not be doing justice to the subject. They were in appearance such as an ingenious mechanic would make to exhibit as a specimen, by forging them carefully out of a piece of fine metal, and then finishing them by filing and polishing them in the finest shape that ingenuity could suggest. Mr. F. has hitherto been more successful in displays of useful ingenuity than in meeting the reward it merited; but if this invention does not place him out of the reach of want, we shall be ready to subscribe to the opinion, that ingenuity is a real misfortune. We think no small share of credit is also due to the patriotic gentlemen who furnished Mr. F. with means to perfect his machine, and bring his ingenuity to useful practice.

Diagram No. 3.



**IMPROVED CAR WHEEL.**—By accident the following description of Mr. Steele's "Improved Car Wheel," was published in number 7, without the illustration, which was prepared to accompany it. We now

therefore, republish it, with the accompanying engraving.

Diagram No. 3 represents a double flanged car-wheel; *a* is the cylindrical part of the wheel, *b* the cone, and *c* and *d* the flanges. The object of the double flange is to decrease the liability of cars to run off the track. Each of the flanges we will suppose of the usual depth. Now suppose an obstruction on the rail which would raise the wheel high enough to clear the first flange, that flange would fall on the top of the rail, and the wheel for a moment would roll on it, but with such an increased diameter as would restore it in half a revolution to its proper position. The effect of this is so obvious and simple, that a further description is deemed unnecessary.

Respectfully,  
S. D. STEELE.

### RAILROAD AND CANAL INTELLIGENCE.

#### UPPER CANADA.

Several Railroads are proposed in this province. One is from Sandwich to Buffalo; a rival route is from Burlington Bay (head of Lake Ontario,) to London, and from thence to Sandwich; also from London to Lake Huron; also from Hamilton (on Burlington Bay,) to the Niagara River. The route from Hamilton to Sandwich has been examined, and the distance is reported to be less, and the ground more eligible, than the Lake Erie route. A bill to incorporate a Company with a capital of two million dollars to construct a road on the London route, has been introduced into the Legislature. This route, with the Boston, Albany, and Oswego Railroads, will shorten the time and lessen the expense of the journey from the east to Detroit by at least one-third.

#### CONNECTICUT.

The (New-Haven) Daily Herald of the 15th inst. contains a map of the various routes of the Hartford and New-Haven Railroad. It appears that the western route is the most favorable.

The Herald relates a curious anecdote of the people of Newington:—

The Newington folks, we are told, hearing that it was proposed to run a Railroad through their town, presented a remonstrance to the Directors, representing that they were a peaceable, orderly people (which in truth they are,) and begged that their quiet might not be interrupted by steam cars and an influx of strangers. As good luck would have it, there was no occasion to contravene their wishes—the other fork being deemed preferable.

#### NEW-YORK.

A memorial has been presented to the Legislature, asking for a Canal from the Chemung river, three miles long, to Elmira, for manufacturing purposes, as well as for navigation.

#### NEW-JERSEY.

From a list of 141 acts passed by the New-Jersey Legislature, at its late session, we copy the titles of those of a public nature. Among the private acts, are twelve divorces.

To incorporate the Keigelsville Delaware Bridge Company.

To repeal certain chartered rights therein specified, and for other purposes.

To incorporate the Salem, Delaware, and Philadelphia Steamboat Company.

To provide for the establishment of Public Schools in Paterson.

To incorporate the Belvidere and Port Colden Railroad.

A further supplement to the act relative to the Supreme and Circuit Courts.

An act relative to the property of the incorporated Society of Friends.

To incorporate the Lumberville Delaware Bridge Company.

To incorporate the Medford Railroad and Transportation Company.

A supplement to the act incorporating the inhabitants of townships, designating their power, &c., passed Feb. 1, 1798.

A further supplement to the act to incorporate the New-Jersey and Hudson River Railroad Company.

To incorporate the Belleville Railroad.

A supplement to the act incorporating the Salem and Philadelphia Steamboat Company.

A further supplement to the act incorporating the Elizabethtown and Somerville Railroad Company.

To incorporate the NEW-BRUNSWICK MANUFACTURING COMPANY.

To incorporate the Bergen Railroad and Transportation Company.

To incorporate the Elizabeth Port Manufacturing Company.

To incorporate the Newark Malleable Iron Manufacturing Company.

To set off a new township in Gloucester, to be called "the township of Washington."

To incorporate the Burlington and Mount Holly Railroad and Transportation Company.

To incorporate the Morris County Bank.

To incorporate the Monmouth and Middlesex Agricultural Railroad and Transportation Company.

To authorize Peter V. Pool and John A. Pool, trustees to sell certain real estate.

A supplement to the act establishing Banking and Insurance Companies in Newark, passed Feb. 17, 1804.

A supplement to the act incorporating the Farmers' and Mechanics' Bank at Rahway. [Increasing the capital \$100,000.]

To incorporate the Totowa Manufacturing Company.

To incorporate the Neshanic Mining Co. of Hunterdon.

To incorporate the city of Newark.

To incorporate the Camden and Woodbury Railroad.

To encourage the growth of thorn hedges.

To incorporate the Belvidere and Delaware Railroad Co.

A supplement to the act regulating the repacking of beef and pork, passed Sept. 2, 1802.

To incorporate the Dennisville Glass Manufacturing Co. in Cape May.

A supplement to the act incorporating the Orange Bank. [Increasing the capital \$100,000.]

To incorporate the Elizabethtown Silk Manufacturing Co.

To incorporate the Mount Holly and Camden Railroad.

A supplement to the act regulating the shad fisheries in South River, in Middlesex county, passed Feb. 22, 1804.

To incorporate the Union Manufacturing Co. of Trenton.

To incorporate the Patent Arms Manufacturing Co.

To incorporate the Camden and Philadelphia Steamboat Ferry Co.



To incorporate the Woodstown and Bridgeton Railroad.

A supplement to the act securing to mechanics and others payment for their labor, materials, &c., passed March 3, 1835. [Extending the act to the whole county of Hunterdon.]

To incorporate the Passaic Navigation and Manufacturing Company.

To incorporate the New-Jersey Silk Manufacturing Co.

To incorporate the Milford Delaware Bridge Co.

To provide for the instruction of indigent blind persons.

To incorporate the Alloways Creek Navigation Co.

A supplement to an act to incorporate the Clinton Manufacturing Co., passed Feb. 1, 1830, and an act supplementary thereto, passed Jan. 30, 1833.

To authorize the chosen freeholders of Essex and Middlesex to build a drawbridge over Rahway river, at Rahway.

To increase the capital of the State Bank at Newark. [\$300,000.]

To incorporate the N. J. Manufacturing Co.

Making a further appropriation of \$2,000 for the prosecution of Geological Surveys.

To raise the sum of \$40,000 for the year 1836.

A further supplement to the act to incorporate the New-Jersey Turnpike Co.

To incorporate the Egg Harbor and Camden Railroad.

To incorporate the Mechanics' and Tradesmen's Institute of Newark.

To incorporate the Monmouth Silk Co.

To incorporate the Salem Silk Co.

#### MARYLAND.

We have before us the report to the City Council of Baltimore respecting the subscription to the Baltimore and Ohio Railroad. It is a well written document, containing much information.

The report and resolutions passed both branches.

#### VIRGINIA.

THE RAILROAD from Harper's Ferry to Winchester, which connects with the Baltimore and Ohio Railroad, is now open. On the 9th inst., at 12 o'clock, the locomotive engine, TENNESSEE, the first ever seen in the valley of Virginia, came up from Harper's Ferry to Charlestown in style, with a train of cars, and, after tarrying a few minutes, passed on to Winchester.

#### LOUISIANA.

At a meeting of the Directors of the Atchafalaya Railroad and Banking Company, Joshua Baldwin, Esq. was elected President, S. G. Dixon, Cashier, and W. H. Rondeau, Secretary.

This institution is now open for banking business.

#### TENNESSEE.

The Improvement Act, recently passed, provides for the subscription by the State for one-third of the stock of Railroads, &c.

Several meetings in favor of the Cincinnati and Charlestown Railroad have been held in North Carolina and Tennessee.

#### OHIO.

The books of the Wellsville and Fairport Railroad have been opened. The stock was in great demand.

#### MICHIGAN.

DETROIT AND ST. JOSEPH RAILROAD.—At

a meeting of the Directors of the Detroit and St. Joseph Railroad, held at the office of the Chief Engineer, on the 27th day of February, 1836, present

JOHN BIDDLE, President.

O. NEWBERRY,  
MARK NORRIS,  
D. G. JONES,  
EDMUND BRUSH,  
JUSTUS BURDICK,

Directors.

Resolved, That the north line, run by W. A. Burr, under the superintendence of the Chief Engineer, from Dearbornville to the 2d mile stake, be established as so much of the Detroit and St. Joseph Railroad.

Resolved, That the contracts for cutting and grubbing the road in half mile sections, for the first six miles, from Detroit westward to the 6th mile post, will be sold to the lowest bidder, at King's corner, Jefferson Avenue, Detroit, on Tuesday, the 15th day of March next, at 10 o'clock, A. M.—And a like sale will take place of contracts for cutting and grubbing the next six miles, (from the 6th to the 12th mile stake,) at the house of Daniel Thompson, on the 16th day of March next, at 10 o'clock, A. M.—And a like sale will take place of contracts for cutting and grubbing the next five miles, (from the 12th to the 17th mile stake,) at the house of Samuel Torbet, on the 17th day of March next, at 10 o'clock, A. M.—And a like sale will take place of contracts for cutting and grubbing the next five miles, (from the 17th to the 22d mile stake,) at the tavern-house of Bradford Canfield, on the 18th day of March next, at 10 o'clock, A. M.—And a like sale of contracts for cutting and grubbing the next five miles, (from the 22d to the 27th mile stake,) will take place at the house of John King, on the 19th day of March next, at 10 o'clock, A. M.

Resolved, That the time for the completion of the contracts is limited to the 15th day of May next.

By order of the Board,

C. C. TROWBRIDGE, Secretary.

RAILROADS IN THE UNITED STATES.—It is estimated on good authority, that at this time the Railroads in the United States, either actually under contract or in progress of being surveyed, amount to more than three thousand miles. Each yard of the highest iron rails, fit for a Railroad, weighs sixty-two and a half pounds. As there are 1760 yards in a mile, each mile of Railroad, with a double track, will require 238 tons of rails, besides chains, screws, and bolts—amounting in the whole to at least 250 tons of iron per mile—250, multiplied by 3000, is 750,000 tons of iron, that will shortly be used in the United States in the construction of Railroads.

Such is the demand for Railroad iron in England for the American market, that common bar iron, which one year ago was worth only £6 10s. sterling in Wales, is now worth £9 10s. at the Welsh works, as appears by the British Prices Current.

It is stated in the New-York papers, that at this time contracts have been actually made in England by American houses, for 400,000 tons of Railroad iron to be shipped to this country.

£9 10s. sterling is about forty-five dollars of our money; but Railroad iron costs more than common bar iron, and is at this time worth at least \$50 per ton, at the works in Wales or Staffordshire. Four hundred thousand tons of iron, at \$50 per ton, is twenty millions of dollars, that the people of the United States are bound to pay to the English by their present contracts for Railroad iron. If all the projected Rail-

roads of this country shall be laid down with British iron rails, we shall pay to the English nation, within the next seven years, at least fifty millions of dollars for Railroad iron.

And yet, we have in our mountains both iron ore and coal, of the best quality, and in quantities sufficient to yield iron for the whole world.—[Pa. Telegraph.]

It is a singular fact, that since the establishment of Railroads in England, rival turnpikes, which were supposed to be thereby ruined, have actually done more business than ever.

#### ANNUAL REPORT OF THE CANAL COMMISSIONERS, TO THE LEGISLATURE OF THE STATE OF NEW-YORK.

(Continued from No. 7.)

##### CAYUGA AND SENECA CANAL.

This Canal has been navigable through the season, with but little interruption.

The locks on this Canal are of wood, and many of them are in such condition as to require expensive repairs. Several of them will have to be rebuilt within a short time.

The Commissioners respectfully ask the direction of the Legislature, as to the rebuilding of these locks; that is, whether they shall be rebuilt of wood or stone.

##### CHEMUNG CANAL.

This Canal has been in a good navigable condition the past season, except for a short time, the latter part of August and beginning of September, in the lowest stages of the water in the Chemung River, when the leakage on the feeder, and the large quantity of water required on the Summit Level, to supply the lockages in both directions on the main Canal, reduced the water in the feeder at Horse-Heads too low for the passage of loaded boats.

The rains in September raised the Chemung River, so that by placing flash boards on the State dam at the head of the feeder, a full supply of water was obtained for the remainder of the season. To remedy the occurrence of a similar interruption, the embankment on section No. 2, a mile below the State dam on the feeder, should be raised, and lining put in on the gravelly soil to some extent, where the leakage is greatest in the feeder, and by proper economy in the use of lockage water, it is believed a full supply for navigation may be obtained.

The great number of locks in the valley of the Catharine creek, renders a constant supervision necessary to keep the short levels at all times prepared for the passage of boats. On this part of the line, the guard walls, above and below the locks, have been enlarged. Some repairs have been made to the locks; and the towing-path on several of the levels has been raised and gravelled.

##### CROOKED LAKE CANAL.

On this Canal there are 27 lift-locks and one guard-lock. The guard-lock is constructed of hewn stone, laid in cement. The lift-locks are of wood, and numbered from the upper to the lower end of the Canal. In the construction of the lift-locks, the embankment of earth, ordinarily put in against the sides, to resist the lateral pressure of the water in locking, was dispensed with. For the breast work at the heads, a wall of stone was constructed, and for the chambers a strong timber frame planked on the inner side, and secured by bolts to long posts, put in on the outside, resting upon and tenoned into the foundation timbers.



and a cap piece framed in them across the locks. Additional support was also given externally, by the erection of a perpendicular dry wall about five feet high, along the sides, and by braces of timber, extending from the end of the foundation sticks into each of the side posts, at a point near the top of the wall.

This plan is calculated to preserve the timbers from decay, by preventing the earth from coming in contact with the sides of the lock. It reduces the original cost of embankments, and will lessen the expense of repairs, by affording ready facilities for taking out and repairing the side timbers.

On account of the limited appropriation for the construction of this Canal, the side walls of the locks were in part dispensed with. These walls, now 5 feet in height, require raising to 9 or 10 feet, as an additional support to the timber walls of the locks, and to the embankment at the sides. According to the original design, these additional walls may now be constructed with greater economy, by using the navigation to transport the stone to the locks.

The Commissioners, under the act of May 11, 1835, authorizing them to deepen the upper level of the Crooked Lake Canal, and for other purposes, have made a contract to have a waste constructed on the State dam; and to have a feeder constructed from the outlet into the Canal below lock No. 8. The work is in progress, and to be completed by the first day of July next. The estimated expense is \$500.

#### CHENANGO CANAL.

During last winter, the propriety and necessity of effectual arrangements for an early commencement of the work in the spring, and a vigorous prosecution through the season, was urged on all the contractors. Experience had shown that the progress of a public work about to be finished is generally embarrassed by a scarcity of hands, and consequent high prices for labor.

In anticipation of the existence of such a state of things on this Canal, these suggestions were strongly urged, with a view of rendering the completion of the Canal in the fall of 1836 entirely certain, and exempt from the usual embarrassments.

The spring, however, was very unfavorable to an early commencement of the work, and it was not until late in May that it was in a suitable condition for its favorable prosecution. At this period, the work on the entire line from Utica to Binghamton, was pushed forward, and a want of hands was soon felt. At this period, also, the hay and coarse grain of every kind became scarce, and high, and gave a check to the progress of the team work. This state of things was followed by high prices for provisions of all kinds, which continued through the season.

These unexpected and untoward circumstances discouraged several contractors, and retarded the progress of the work. The past has, on the whole, been an unfavorable season for its progress, and the amount of work done has fallen considerably short of what was expected. Several contractors abandoned their contracts, without commencing the work; others, after executing a part of it; and altogether, fourteen contracts were abandoned in the past season. With these exceptions, the contractors have generally advanced with their work, and under the circumstances, have made commendable progress.

The work which was abandoned has been relet, and generally for prices higher than those in the first contracts. The contracts which were abandoned have been handed to the Attorney-General for prosecution.

The contractors on section No. 2 of the Summit Level became embarrassed, and the progress of the work was interrupted early in May. This unexpected occurrence on the heaviest contract on the line, and at a season when a contractor should be in a state of preparation for doing a good deal of work, for a while rendered the completion of this section at the time specified, doubtful. A new contract was however made, after an interruption of about two months, and the work fell into the hands of men possessing means, vigor and energy of character. Its prosecution thus far has been satisfactory, and not a doubt is entertained of its completion at the time specified in the contract.

The character of the work on the Summit has thus far been quite as favorable as was anticipated, and has been more free from the unfavorable incidents which generally occur in deep excavations, than is common.

The excavation and embankment north of the summit, and south of it as far as Sherburne, is nearly completed, and on about eleven miles it is finished. The mechanical work on this part of the line, embracing 87 lift locks, with the exception of the work included in two contracts, is in quite a forward state. The work included in one of these contracts was abandoned by the first contractors, and left in a backward condition. But it has been let to excellent men; and though much remains to be done, its execution is practicable, and it is expected that it will be completed next fall. The other contract alluded to remains in the hands of the first contractors, whose good intentions to perform the work has never been doubted; but whose progress has not been entirely satisfactory. They have, however, renewed their exertions, and the progress of the work is now satisfactory.

The west and middle branch, and the Madison brook feeders, and the Woodman's Lake reservoir, are in a reasonable state of forwardness. The Madison brook reservoir is completed, with the exception of a little clearing on its border. The Eaton and Bradley brook reservoirs, though required by contract to be completed last November, remain unfinished; but the work is in a forward state, and has been retarded in its progress by circumstances before alluded to.

The line between Sherburne and Greene is also in a forward state, and the utmost confidence is entertained that the Canal from the latter place to Utica will be completed next October.

The line from Greene to Binghamton, which comprises a good deal of heavy work, is not so forward as could be wished. This part of the line was put under contract late in the fall of 1834, and very little work was done previous to last spring. The tardiness of some of the contractors, the failure of others, and the scarcity of hands, has fallen pretty heavily on this part of the line; but its completion next October has at no time been despaired of.

It was foreseen as early as last August that it would require an effort to finish this part of the line at the time contemplated, and measures were adopted to place the work in a situation for a winter's operation. This arrangement will not only be important in reference to the progress of the work, but its tendency will be to retain on the line the laborers, many of whom would otherwise have left last fall. It is seldom profitable to work in the winter, but the contractors were deeply interested in keeping the men on the line during the winter, as it would be difficult to induce men to come from abroad next spring without paying extra wages of two or three dollars per month. Last November there was an insufficient number of

men on the line for the winter, and a successful effort was made to procure them from other public works where the operations were about being suspended for the winter. The line is now pretty well supplied. The work will be continued through the winter, and on the Summit Level there are probably 450 men employed, besides 50 or 60 teams.

The contractors for the mechanical work are procuring their materials during the winter, to enable them to commence their work early in the spring.

Some hazard is incurred in suffering embankments to be made while the ground is frozen; and in the winter of 1834 the work was, for this reason, generally suspended. It is thought that in the aggregate it would be better to forego the hazard which has been alluded to, than not to finish the Canal next season.

It is deemed important that the Canal should be completed next year, and every reasonable effort will be made to bring about that desirable result. As has been stated before, no doubt is entertained of being able to finish the Canal as far as Greene; and if the winter is favorable for the work on the line, there can be but little doubt that the entire Canal will be completed by the first of November next.

The Kingsly brook reservoir was put under contract last fall, to be completed on the first day of next November.

In the last annual report an estimate was furnished of the cost of this Canal, at the estimated cost of the engineer, and also at the contract prices.

The former estimate amounted to \$1,960,456 28, and the latter to \$1,859,849 12.

In the report alluded to it is stated that "a portion of the line of this Canal is difficult and expensive; and in the construction of reservoirs, we have not the advantage of experience. Estimates made under such circumstances, are generally below the cost of the work."

"In making estimates before its construction is in progress, the engineer has, in general, only imperfect means to ascertain the quantity of rock and hard pan excavation, and the lining that will be necessary. These, the most expensive part of the work, are mostly hid from his view."

The Commissioners, in that report, also express the opinion "that it would not be safe to calculate that this Canal will be constructed for a sum below the estimate of the engineer."

When this estimate of the engineer was made, the work between Greene and Binghamton, which comprises heavy river banks and other expensive and difficult work, had not been commenced. The character of the work between Sherburne and Greene was not fully developed. As has been stated, several contracts have been abandoned, and the work let for higher prices.

In the estimate presented in 1835, the cost of the Kingsly brook reservoir was stated at \$29,500. The location of this reservoir has not been changed, but the height of its head has been raised 15 feet. This increase in the depth of water will comparatively flow but a small additional quantity of land. It will add about 80 per cent. to the quantity of water, and \$15,000 to the expense. This change of the plan was made with some reluctance, as it increased the aggregate cost of the Canal; but its advantages, it is thought, much more than counterbalance this consideration. The examinations made during the past season show, that the proportion of drainage to the falling water, very considerably exceeds the



estimated quantity upon which the reservoirs were planned: Hence the propriety of enlarging this reservoir, as its previous dimensions were fixed in reference to the original estimate of drainage.

The damage to private property by the reservoirs which have been adopted, is extensive. The reservoirs on Eaton, Bradley, Madison and Kingsly brooks, occupy the valleys of small streams, and the lines of farms are generally so arranged as to pass through the valleys and include high lands on both sides. In this way land belonging to the same farm is separated; and in some instances a very large portion of farms, including the buildings, have been taken.

By referring to the former report, it will be seen that reservoirs besides those alluded to, have been surveyed as a contingent resort. The enlargement of the reservoir in question, is equal to 65,000,000 cubic feet of water, and will go thus far to dispense with the necessity of resorting to this contingent supply.

The experience of the past season indicated a variety of causes, why the cost of this Canal must exceed the estimate, at the contract prices before alluded to. Under these circumstances, the chief engineer was requested to cause a careful revision of the estimate to be made. This has been done, and the cost of the Canal is now reported at 1,970,321 76, exceeding the former estimate, at the contract prices, \$116,972 63, and the estimate \$16,365 48.

In the Annual Report of 1835, it is stated "that in the construction of reservoirs, many acres of land are taken, and in some instances the principal part of farms. In such cases, the speedy appraisal and payment of the damages are obviously necessary, and the payments must be made out of the moneys appropriated for the construction of the canal. There should, therefore, be added to the appropriation a sum sufficient to meet this probable contingency."

In pursuance of this intimation, the canal appraisers last season examined and adjudicated on the claims for the Madison, Eaton, and Bradley brook, and the Woodman's Lake reservoirs. The awards on these claims amount to \$32,761, of which there has been paid \$23,853.18. In four cases an appeal has been made from the decision of the appraisers, to the Canal Board.

One claim for damages on the line of the canal has been assessed at \$750. This case is a departure from the general rule, not to assess damages until after the public work is completed. The claim referred to was in the village of Norwich, where an entire lot, on which was a dwelling-house and other buildings, the only property of a widow, with a large family, was unavoidably appropriated.

There are a few cases where the entire property of individuals has been appropriated, and the claimants are very solicitous to have their damages assessed and paid; but this cannot be done without an appropriation for that purpose.

The present estimate of the cost of the canal is \$1,976,321  
The amount of damages now assessed, is 32,761  
2,009,582

The present appropriation is \$1,860,000  
There has been paid into the treasury on account of dona-

tions received from citizens at  
Oriskany Falls, 1,070  
\$1,861,070  
\$148,512

To meet this deficit, will require a further appropriation.

In submitting this estimate, it is proper to remark, that a farther appropriation will be necessary for the payment of damages which may hereafter be assessed. The estimate presented contains 24 per cent., equal to \$35,000, to meet contingencies. This sum appears to be adequate for this purpose; yet it is possible that allowances which the Canal Board may make to contractors, and on appeals from the decision of the appraisers, and the increased expense growing out of a change of contracts by abandonment, and other unforeseen contingencies, may exceed this sum. If this should happen, and the canal should be completed next fall, it would produce a serious embarrassment in settling the contracts. Under all these circumstances, it is respectfully suggested whether it would not be advisable to add a few thousand dollars to the estimated deficit which appears in the account.

Pursuant to the intimations in the last Annual Report, the water passing in Eaton brook has been gauged every day, from the first day of last June to the last day of December, and in Madison brook every day of the year 1835, (Sundays excepted in both cases.) A rain gauge was kept at the same places during the time aforesaid, and a comparison has been made, which shows a favorable result.

The report of Mr. Jervis in relation to the cost of the canal, and the result of the experiments in reference to the question of drainage, above referred to, accompany this report, to which we would refer for many interesting facts in regard to the latter subject.

The following is the amount of expenditures on the canals, from the 30th of September, 1834, to the 30th of September, 1835.

ERIE AND CHAMPLAIN CANALS.  
By Wm. C. Bouck, incl'g salary, \$1,501 80  
" Jonas Earll, jr., do. do. 9,244 30  
" Michael Hoffman, do. do. 1,646 10  
" John Bowman, do. do. 398 63

IMPROVEMENT OF ERIE CANAL.  
By Wm. C. Bouck, damages, &c. 4,192 06  
" Jonas Earll, jr., do. 24,925 26  
" Michael Hoffman, do. 1,592 63  
" John Bowman, do. 1,500 00  
" Superintendents of repairs, including their salaries, and the pay of lock tenders, 392,921 65

[The accounts of the superintendents are examined and certified by one of the acting Commissioners, and audited by the Comptroller.]

OSWEGO CANAL.  
By Superintendent of repairs, including his salary and the pay of lock tenders, \$16,327 64

CAYUGA AND SENECA CANAL.  
By the Superintendent of repairs, including his salary and the pay of lock tenders, \$9,685 32

CHEMUNG CANAL.  
By William C. Bouck, 9 08  
By Superintendents of repairs, in-

cluding their salaries and the pay of lock tenders, 9,616 19

CROOKED LAKE CANAL.  
By William C. Bouck, 1 70  
By the Superintendent of repairs, including his salary and the pay of lock tenders, 3,566 56

CHEMANGO CANAL.  
By William C. Bouck, 651,209 24

Under the "Act to improve the inlet of the Cayuga Lake," the Commissioners have entered into a contract for the opening of a channel across the bar at the mouth of the inlet of the Cayuga Lake, in the town of Ithaca, so as to admit, in times of low water, the passing of vessels drawing five feet water, and for constructing a pier for the protection of said channel. The work is let to efficient contractors; and is to be completed by the first day of January, 1837.

S. VAN RENSSALAER,  
WM. C. BOUCK,  
JONAS EARLL, JR.  
January 26, 1836.

VELOCITY OF WATER. WHEELS IN THE NIGHT.—Popular notions must always be a subject of curiosity and interest to philosophical inquirers, whether these notions are founded on observation, or confounded with superstition; and we are not aware that any popular notion is more extensively diffused among millers (though many of them may not believe in it,) than that which ascribes a greater velocity in the night than in the day, to a water-wheel under the same head. Why there should be any difference, none of the believers in this doctrine have even been able satisfactorily to explain. To argue against it has been futile, because early prejudice was stronger than the powers of reason; and therefore no other way remained that could prove effectual, but to bring it to the test of experiment. For this labor we are indebted to Professor Cleveland. His statement, which follows, is contained in a letter to Professor Silliman, and published in the American Journal of Science and the Arts.

"In a former letter, I mentioned the opinion existing in this part of the country, that saw-mills move faster during the night than the day. The explanation usually given by the workmen is, that the air becomes heavier after sunset.

"I selected a fine day in August, and requested that all the mill-gates might remain stationary for twelve hours. At 2 o'clock P. M., I suspended a barometer in the mill; the pressure of the atmosphere was equal to 30.19 inches; the temperature of the water just before it passed the mill-gate, was 72° Fahr. The log was then detached from the saw, and the number of revolutions of the wheel, being repeatedly counted by different persons, was 96 in a minute. At midnight I again visited the same mill. The barometer stood at 30.28 inches, the pressure of the atmosphere having increased seven hundredths of an inch. The temperature of the water was 72°, the same as at the preceding observation, although it had been a little higher during the afternoon. The log being detached as before, the wheel was found to revolve precisely 96 times in a minute, showing the same velocity as at the preceding noon. The depth of the water was the same during both experiments. The workmen were satisfied that the result of the experiment was correct, but still they seemed to believe that it would be different in a cloudy night."



No. II.

## A SYSTEM OF FINANCE.

TO THE HONORABLE THE LEGISLATURE

OF THE STATE OF NEW-YORK:

As it must be always acceptable to Legislators of ability and integrity to see fair discussion on subjects upon which they have to legislate, to assist them in coming at the best results for the good of the State, I propose to consider the subject of Finance, and have invited the public to a candid investigation—to the end we may adopt the system I shall offer—improve upon it—or suggest a better one—and I respectfully solicit the consideration of the members of the Honorable the Legislature to the same—to act in their wisdom as their guardianship of the whole State shall dictate.

Since taxation is only advisable where necessary to raise funds, or support the credit of the State, we will first consider if a system can be so framed upon our present resources, as may warrant our doing without them—and if we cannot sustain this, we will next examine to what extent taxation be most advisable, and in *what shape* it should come before the people.

The amount required for the ordinary expenses of the Government, is stated by the Comptroller; and for works of Internal Improvement, there is a point beyond which we cannot advance with good economy, inasmuch as the number of the laborers to be had for such works must be known, and I have not the material for such an estimate; but taking the bills before the House, will suppose an annual expenditure of *two millions* as much as required—one million for the enlargement of the old, or constructing a new Erie Canal—half a million for the Black River, and half a million for the Olean Canals, should the Legislature pass those bills.

This sum of two millions we shall probably find more than will be yearly expended.

In the system I now offer, I propose to keep the revenues of the General Fund distinct—and to create an *Internal Improvement Fund*, such as was offered in the Resolution in the Internal Improvement Convention, which I copy, as comprising all I desire to say on the subject.

"Resolved, That this Convention respectfully recommend to the Honorable the Legislature the propriety of forming a separate fund, which shall be called the *General Improvement Fund*, which shall be kept distinct from all other resources of the State—and into which shall be received all the revenues of all the State Internal Improvements, and against which shall be charged the disbursements incurred in said works, as well as the interest on loans contracted for constructing and improving all State Internal Improvements, and the residue, when any, form a Sinking Fund for the liquidation of such loans."

It will be seen, if such a system as this should meet the approbation of the Legislature, that it will be necessary that they reconsider the legislation of last season, which appropriated all the tolls to the enlargement of the Erie Canal, which appears the more extravagant, when we consider the claims of the other parts of the State. Was there no other district of this vast Dominion containing more than 45 thousand square miles, 27,680,839 acres of *assessed* land, and more than two millions of inhabitants, all of whom have borne taxation for a series of years to build up this country on the line of the Erie Canal like a garden? Was there none other then, and now, in need of fostering aid in turn—that to the State revenues for the last 20 years, 10 more were added for that one district, at the very time it was indebted to the State 10 millions of dollars. (See Compt. R. N. 5, page 64.)

*The system of Finance I now offer, I hope will be found more equitable to all parts of the State; it is framed upon our present revenues for the payment of the ordinary expenses of Government, without creating any debt for those—and for the expenditure of two millions of dollars annually for the next 10 years on*

*Internal Improvement; and whereby the payment of the whole 20 millions shall be made within five years after the expenditure.*

This system may be extended, or contracted from time to time, and at no one period shall have made more debt than *half* the sum expended, and at all times have a revenue of about a million a year for the liquidation of such debt as may have been incurred when improvements shall stop.

One of the first principles in all legislation should be to simplify the work as much as practicable; in an affair of Finance of the Public Revenues which are intended for the understanding of all the people, this arrangement should be a cardinal point, never lost sight of. This system has that merit—for while there is evidently a strong desire for Internal Improvement, there is a feverish anxiety with some, least these Improvements should involve the State in debt and taxation. Make then the system so simple that the ignorant as well as the *indolent* can comprehend it without study; then the grumblers who have nothing to lose cannot mislead, and prudent Mynheer, who puffs his segar, and counts up his thousands, may not be disturbed amidst the fumes of his smoke, in his pleasing musings, by counting his contributions to wild speculations in Internal Improvement: all these considerations I shall endeavor to realize.

The able Report of the Comptroller on the Finances does credit to the State and to himself for executing his trust in so satisfactory a manner—so clear, yet so in detail that every one by his own fireside is enabled to form his own opinion of what is required, as well as if he was in the Assembly Chamber.

By this Report, N. 5, page 14, the Comptroller states the receipts to the General Fund for the *current year*, from the auction and salt duties, - - - \$200,000  
From bonds for Oswego lands, - - - 115,878  
Sundry items of revenue, (particulars page 5,) 62,200  
\$378,078

And pages 5 and 6, he estimates the ordinary expenses of the Government for the current year, at - - - - - \$384,600

In this account it will be seen he charges the deficiencies in the lateral Canals which I propose to provide for, - 61,600  
323,000

Here then is ample provision for the civil list for the current year.

In said Report, page 15, the Comptroller says: "If the General Fund is relieved from the amount of drafts upon it to make up the deficiencies in the revenues of the lateral Canals, the restoration of the auction and salt duties to this fund, will enable it hereafter to sustain the ordinary expenses of the Government;" and at pages 10, 15, it is seen the Comptroller includes the ability to pay the interest on the General Fund debt; and at page 13 he estimates the total nett revenues from auction and salt duties to be \$350,000.

We have shown by the items in the Comptroller's Report ample provision for the ordinary expenses of the Government, as well for this as for future years. They are no visionary speculations. The Comptroller says, in so many words, "Give me but these revenues, and free me from the charge of the deficiencies of the lateral Canals, and they are sufficient." He has these revenues, and we propose to provide for the deficiencies in the lateral Canals: these amount to only \$61,600, and are yearly decreasing.

We propose next to provide the ways and means for our annual expenditure of two millions for Internal Improvements: a vast difference between these and \$350,000. Your scrutiny I invite—



your candor I shall count upon. If I miscalculate—if I do not allow sufficient for accidents, show where—correct the estimate. We have but one common end to attain: the prosperity of the whole State—the advancement of Internal Improvements with prudence. But if I am reasonable—if the whole system is upon a statesman-like view, prudent, yet liberal—husbanding the revenues, and yet providing means for aiding all parts of the State, then I count upon the support of all. I ask of Legislatures manfully to act upon it, and of our public journals of all parties, as the circulators and promoters of all legislation for the good of all parts of the State, to unite in recommending this system. It is in reality the only true and fair and patriotic system—a system which considers the whole State as equally entitled to the benefits of legislation. In consideration of so much moment, it is worthy the immediate attention and expression of every patriot.

By Canal Commissioners' Report 4, page 6, the estimated surplus for the current year, ending 30th Sept., 1836, will be \$875,995. From page 7, we may consider \$700,000 of this a disposable fund, and that this season will be spent in making surveys, contracts, &c., to enable the work to begin in 1837.

Said Report, N. 4—page 35:—

Sept. 30, 1835.—Tolls on Erie and Champlain Canals,	1,433,456	38
Oswego Canal,	26,593	85
Cayuga and Seneca Canal,	19,734	82
Chemung " "	4,167	40
Crooked Lake " "	1,822	64
		<u>\$1,485,775 09</u>

Expenses on Erie and Champlain,—deducting interest charged on loans, will be paid,	463,420	18
Oswego—including interest, payable on loans,	36,045	51
Cayuga and Seneca, " " "	22,087	33
Chemung, " " " "	28,036	09
Crooked Lake, " " " "	10,065	99
Chenango—interest on the whole debt of two millions at 5 per cent.,	100,000	00
		<u>660,665 10</u>

After paying the interest and deficiencies on all the Canal loans, there remains a nett revenue, in 1835, of \$825,109 99

In the Legislative Reports of last year, the Canal Commissioners estimate 12 per cent. as the annual average increase of Tolls upon those of the preceding year: this would give for 1836 an increase of \$178,293. M. Beardsley, in his late Report in the Senate, meaning, as it would seem, to be within the estimate, takes \$160,000. We will leave the \$100,000 for contingencies, and take but the \$60,000.

Upon these practical results, tested by the experience of years, we propose our scheme of Finance, for providing the *two millions* for our annual expenditures.

For 1837.—The first year, take nett revenue for 1835, round numbers,	800,000
Increase for 1836, this season,	60,000
Increase for 1837, work begins,	60,000
	<u>920,000</u>
Nett revenue for 1837, Commencing this year to expend annually two millions, must borrow	1,080,000
	<u>2,000,000</u>

Here we have provided two millions to be expended in 1837 on Internal Improvement, and created a debt of 1,080,000

For 1838.—2d year. The nett revenue for 1837, 920,000  
Increase 60,000—980,000

Deduct interest on 1,080,000 debt, at 4½ per cent. 48,600

Balance of two millions to be borrowed, 1,068,600

Increase of debt, \$1,068,600  
Expenditure for 1838, \$2,000,000

Debt, \$2,148,600

For 1839.—3d year. The nett revenue for 1838, 980,000  
Increase, 60,000—1,040,000

Deduct interest on 2,148,400 at 4½ per cent. 96,678

Balance of two millions to be borrowed, 1,056,678

Increase of debt, 1,056,678  
Expenditure for 1839, \$2,000,000

Debt, \$3,205,079

For 1840.—4th year. The nett revenue for 1839, 1,040,000  
Increase, 60,000—1,100,000

Interest on debt 3,205,078, at 4½ per cent., 144,228  
955,772

Balance of two millions to be borrowed, 1,044,228

Increase of debt, 1,044,228  
Expenditure for 1840, 2,000,000

Debt, 4,249,306

For 1841.—5th year. Nett revenue for 1840, 1,100,000  
Increase, 60,000—1,160,000

Deduct interest on 4,249,306 debt at 4½ per cent., 191,218  
968,782

Balance of two millions to be borrowed, 1,031,218

Increase of debt, 1,031,218  
Expenditure for 1841, 2,000,000

Total amount of debt on 30th Sept., 1841, 5,280,524

It is seen we have included all the Canals now a charge upon the Government, and paid all their deficiencies; and allowing the Chenango Canal barely to keep itself in repair, we have assumed to pay \$100,000, the yearly interest on its two million debt, from this time, that we have not included in this estimate the \$700,000 surplus of this year, and yet in five years we shall have expended ten millions on Internal Improvements, and contracted only a debt of five millions.

After the same progression in ten years, we will have expended twenty millions, and have only a debt of ten millions, with a nett



revenue, after paying the interest on this debt, of one million a year to redeem it in, and all this from our present works.

There is no reasonable calculation why the Contingent Fund should be drawn upon: if this is cast it will not vary much from three millions at the end of ten years, and be so much to deduct from the ten million debt. It is not intended this shall be kept a separate fund: it is set aside to show the ample means the system provides: and yet all these do not give the system its reasonable advantages. Before we shall have expended the twenty millions the Erie Canal will have been enlarged, or made new; the Black River, and the Olean Canals, or other works completed, all adding their revenues from this expenditure, not a dollar of which has been considered in this estimate; that when we take into calculation the proportional enlargement and capabilities of the Erie Canal, with the increase of tolls, from the great growth of our own and the Western States, and their Internal Improvements acting as so many feeders to our revenue, who can say he thinks the debt will then exceed —: I submit to the good sense of others to calculate how much.

I have allowed so much for contingencies, that, if the estimate is objected to, I think the Legislature would find no difficulty in farming out the contract.

The Canal Commissioners this last season have been obliged to pay 24 per cent. premium to buy up their debt, to save this loss, or the alternative of lending surplus funds. I propose this difference in our system of borrowing: to pay 4½ per cent. interest, and the lenders, instead of bidding a premium, bid down the time we shall be free to pay in.

Let it always be borne in mind, the Legislature last season had voted all our revenues to the enlargement of the Erie Canal, and his Excellency the Governor, in his Message, and the Comptroller, in his Report, had no alternative but to let the Internal Improvements stop, or recommend a tax; and they did all that public officers could do in their situations. I may be excused in respectfully recommending a re-consideration of that appropriation, and to adopt a system which will afford that Canal all they would now get, and will also enable the Legislature to assist all other parts of the State. This system is now submitted for examination and an impartial opinion—it is so simple, it will take but little time to understand and decide its merits, if it has them—if approved of, let every journal, let every one who has interest, exert it to induce the Legislature to adopt it. If this system be adopted, shall we require any tax for Internal Improvements? Answer, then, in candor.

TAX OR NO TAX.

March 17, 1836.

#### LAKE ERIE STEAMBOATS.

The following article relative to the steamboats on Lake Erie, is extracted from the Bethel Magazine, published in this city. It is but a part of the original, but contains much useful information.—[Buffalo Jour.]

Table showing the Tonnage of Steamboats on Lake Erie, their Age, and Captains.

Names of Boats.	When built.	Tonnage.	Masters in 1835.
Walk-in-the-water, 1818	388		
Superior, 1822	346		
Caroline, do	45	Baletine.	
Henry Clay, 1824	301		
Niagara, do	156		
Enterprise, 1825	219		
Sheldon Thompson, do	241		
Pioneer, do	129		
William Penn, 1826	250	Dwight.	
William Peacock, 1829	120	E. W. Pratt.	
Ohio, 1830	187	C. Burnet.	
Gen. Gratiot, 1831	62	Clarke.	
Perseverance, 1832	22		
Michigan, 1833	472	C. Blake.	
Daniel Webster, do	376	M. Tyler.	
New-York, do	325	R. C. Bristol.	
Uncle Sam, do	174		
Pennsylvania, do	305	L. Allen.	
Gov. Marcy, do	161	S. Chase.	
Detroit, do	137	R. Gillet.	
O. Newberry, do	170	A. Pratt.	
Washington, do	609		
Delaware, do	177	E. S. Cobb.	
Gen. Brady, do	66	J. Burtis.	
Andrew Jackson, do	65	F. Atwood.	
Sandusky, 1834	387	T. J. Titus.	
General Porter, do	352	W. Norton.	
United States, do	366	A. E. Hart.	
North America, do	361	Appleby.	
Monroe, do	359	Whitaker.	
Victory, do	77	J. Hebard.	
Maj. Jack Downing, do	45	Bradley.	
Thomas Jefferson, 1835	428	T. Wilkins.	
Charles Townsend, do	312	S. Fox.	
Com. Perry, do	352	Wilkinson.	
Columbus, do	392	A. Walker.	
Mazeppa, do	60		
Robert Fulton, do	363	R. Hart.	
W. F. P. Taylor, do	125	C. Myrick.	

Tonnage and Capital.—The whole number of steamboats which have been built and put in operation upon Lake Erie from the commencement of this kind of navigation, is 39. The amount of tonnage of these

boats is 9,634 tons. Their original cost was not far from \$1,150,000.

The present number of boats on the Lake is 34; the aggregate tonnage of which is 8,000 tons. The capital now invested in this stock, exceeds \$1,000,000.

Expenses of Running.—The expenses of running those boats which perform regular trips through the lake, including wages of men, wood, provisions and ordinary contingencies, is from \$100 to \$150 per day each, making the yearly expenses of each boat \$25,800. The time of running is usually seven months, from May 1st to December 1st.

Wood.—The amount of wood consumed by a steamboat during a trip, (through the lake and back,) is from one to three hundred cords, averaging, probably, 150 cords. Each boat performs between thirty and thirty-five trips in a season, and of course consumes 5,000 cords of wood. The whole amount consumed by 24 boats, the number usually engaged in regular trips through the lake, would be 120,000 cords. The smaller boats and those employed on the rivers, use probably 30,000, which makes the total amount consumed, 150,000 cords.

The price of wood varies at different ports from \$1.50 to \$2.00 per cord—average price \$1.75, which makes the average cost of wood consumed by steamboats, over \$25,000 a year.

Men employed and their Wages.—The number of hands employed on steamboats which run through the lake, is from 20 to 30 each. The smaller boats employ from 8 to 15 hands each. The whole number of men engaged in conducting the steamboat navigation of the lake is about one thousand.

The wages which the men receive, varies according to the rank and the kind of business which they perform, as follows:

The captain, per year,	from 600 to \$1,000
First mate, per month,	from 36 to 40
Second mate, do	18 to 25
Stewart, do	25 to 35
Engineer, do	50 to 90
Wheelmen, do	15 to 20
Firemen, do	18
Sailors, do	16
1st cook, do	25
2d do do	18
3d do do	10
Other hands, do	from 10 to 15

Towards the end of the coming May there is to be in Baltimore an exhibition of manufactured articles of all kinds, on the plan of the yearly exhibitions of the American Institute, New-York. To the public spirit of the managers and officers of the Baltimore Lyceum is our city indebted for this undertaking. Those gentlemen have already put forth to the public on a printed sheet, the rules and regulations to be observed at the exhibition, which will commence on the 25th of May, and continue for three days, from 9 o'clock in the morning to ten at night. Premiums will be given for the best specimens of a variety of articles enumerated.

We trust that all interested will engage in the scheme zealously. Such exhibitions, which are given annually in other cities, have an excellent effect in promoting a spirit of improvement in the useful arts.—[Baltimore American.]

STEAM VS. WATER.—The Portsmouth Journal makes a statement, based upon actual experiment, by which it appears that the manufacture of cotton by steam mills, in seaport towns, may very successfully compete with the best water power in the interior. The cost of operating a mill at Lowell, of 10,000 spindles, is put down at 150 dollars per week; that of a steam power, at 125 dollars—making a difference in favor of steam of 25 dollars per week.

RAILWAY IRON—Advance in Prices.—We have been favored with a letter from GERARD RALSTON, Esq. who was travelling in Great Britain, from which we learn that a great advance has taken place in the price of Railroad Iron. It could hardly be otherwise when so many Railroads are in course of construction.

STEAMBOATS.—By a communication in a late number of the Pittsburgh Gazette, we learn that at that place, during the last year, 46 new steamboats have been built, with an aggregate tonnage of 8,200. This, we believe, is a larger amount than has been built by any other city of the Union in the same time.



PALMER'S PATENT EXCAVATING AND SELF-LOADING CART.

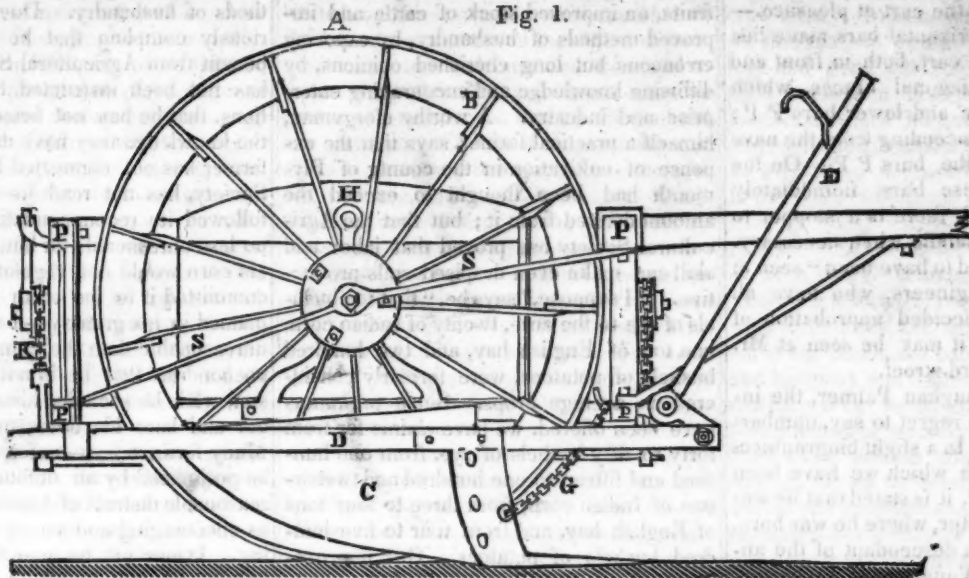


Fig. 2.

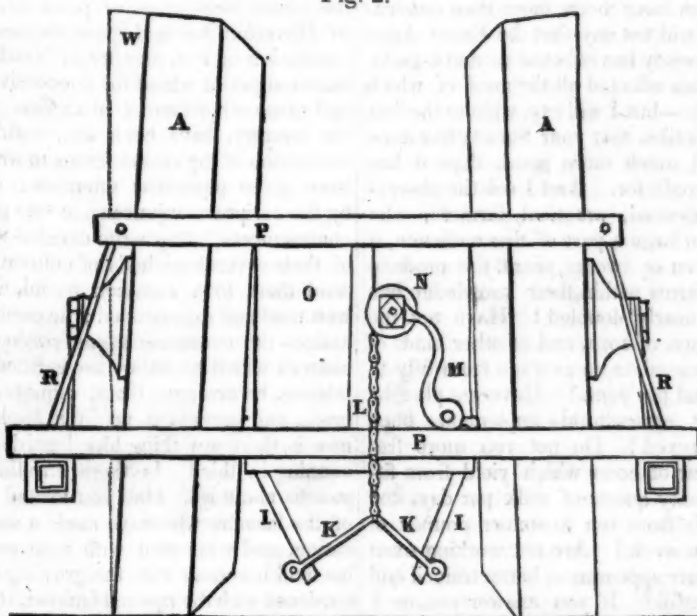
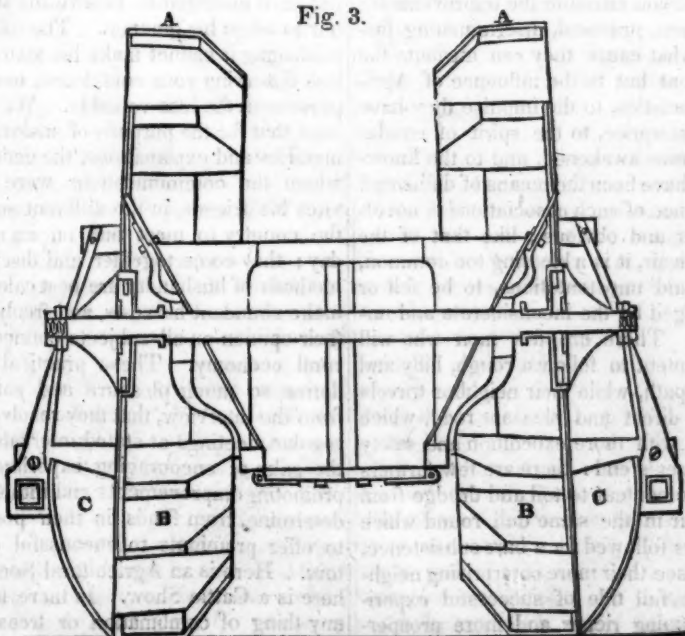


Fig. 3.



PALMER'S PATENT EXCAVATING AND SELF-LOADING CART.

In this railway age, an invention which is represented to be capable of effecting a saving of no less than "500 per cent." in the time and labor attending those fundamental railway operations, cutting and embanking, will be readily allowed to be one deserving of all possible attention. Whether so prodigious a saving could be actually realized by the apparatus we are about to describe, practice only can determine; and, for the present, we are inclined to think that to expect so much from it, is to take rather a sanguine view of its capabilities. But we are sure every mechanical reader will join with us, at all events, in admiring the ingenuity and skill with which it has been constructed.

Fig. 1 is a side-elevation of Mr. Palmer's excavating and self-loading cart; fig. 2, an end-view; and fig. 3, a sectional view through the axle.

The cart, it will be seen, is of the ordinary size; it may be drawn by one or two horses, and will hold half a ton. AA (fig. 2) are the wheels, the rims of which are hollow, open on the inside, and divided by the projecting partitions BB into as many separate chambers, as there are spokes; CC are iron cutters or excavators, resembling plough-shares, one to each wheel, which scoop out the earth, and throw it upon the projecting partitions BB, which, as the wheels revolve, discharge the earth into the body of the cart H; D is a beam, to which each excavator is secured by two strong bolts; and E, a lever, with a hooked termination, to which a chain G, proceeding from the excavator D, is attached, so that by the turning of this lever the excavator may be adjusted to any depth required, or raised altogether when the cart has completed its load. The means provided for emptying the cart are shown in fig. 2. The bottom is divided into two parts II, which are connected by the bars KK to a chain L, which passes round a projecting iron rod or pulley N. M is a winch-handle, which, being ap-



plied to the rod N, opens or shuts the bottom leaves of the cart at pleasure.—P P are strong horizontal bars made fast to the body of the cart, both in front and at back; R R, diagonal braces, which connect the upper and lower bars P P; and S S, braces, proceeding from the nave of the wheel to the bars P P. On the uppermost of these bars, immediately above the letter O, there is a stopper to retain the winch-handle when necessary.

The cart is stated to have been "seen at work by many engineers, who have all given their most decided approbation of it." A model of it may be seen at Mr. Hendries', in Oxford-street.

Mr. George Vaughan Palmer, the inventor, is now, we regret to say, numbered with the dead. In a slight biographical notice of him, with which we have been favored by a friend, it is stated that he was a native of Worcester, where he was born, June, 1786; and a descendant of the ancient family of the Vaughans of Trebaried, county Brecon, and Hargest Court, Herefordshire. From early infancy he evinced a strong taste for mechanical pursuits; and, had he been longer spared to the world, would probably have risen to eminence as an inventor. Great part of his time was devoted, for some years previous to his death, to the construction of his excavating-cart; and he had but just completed, and secured his right to it by a patent, when he was seized with a rapid decay, of which he died in June, 1834, leaving a widow and four children, for whose benefit the patent is now to be sold.—[London Mechanics' Magazine.]

#### AGRICULTURE, &c.

#### AN ADDRESS TO THE ESSEX AGRICULTURAL SOCIETY,

At Danvers, September 30, 1835, at their Annual Cattle-Show.

BY DANIEL P. KING.

#### Mr. President and Gentlemen:

The seventeenth anniversary of your Society has brought together the farmers of the county, to exchange their friendly greetings and heartfelt congratulations; it has given you opportunity to renew and extend your acquaintance amongst men of common habits, feelings and pursuits—to take by the hand many practical and enterprising husbandmen in whom you have long been interested—men who have instructed and encouraged you by their precepts, their example and their success; it has redeemed one day from the busy round of a farmer's ever active life, and devoted it to social intercourse, and sober, manly enjoyment. Had your Society been productive of no greater benefits, it would still have deserved all the countenance and encouragement which it has received from the State and from an enlightened community. But social enjoyment and an occasional relaxation from the tediousness of business are not the only, nor the principal benefits which have resulted from your association. It has exerted a powerful influence, by awakening a spirit of inquiry and emulation, by

introducing new varieties of vegetables and fruits, an improved stock of cattle and improved methods of husbandry, by exposing erroneous but long cherished opinions, by diffusing knowledge and encouraging enterprise and industry. A worthy clergyman, himself a practical farmer, says that the expense of cultivation in the county of Plymouth had been thought to exceed the amount derived from it; but that the Agricultural Society has proved that labor and skill can make even despised soils productive. "I suppose," says he, "that ten bushels of rye to the acre, twenty of Indian corn, one ton of English hay, and two hundred bushels of potatoes, were formerly considered as average crops. Since premiums have been offered, we have claims for from forty to fifty bushels of rye, from one hundred and fifteen to one hundred and twenty-two of Indian corn, from three to four tons of English hay, and from four to five hundred bushels of potatoes. Our improvements have not been confined to single acres; in several instances, the products of entire farms have been more than quadrupled." I will not say that the Essex Agricultural Society has effected so much good, or that it has effected all the good of which it is capable—but I will say, without the fear of contradiction, that your Society has done more good, much more good, than it has ever had credit for. And I ask the observing, experienced, practical farmers, who compose so large a part of this audience, if within fifteen or twenty years, the produce of many farms within their knowledge has not been nearly doubled? Have not the crops of hay, of corn, and of other kinds of grain, increased on an average from fifty to one hundred per cent.? Have not ploughs and other agricultural implements been much improved? Do not you more frequently hear of cows which yield from fifteen to twenty quarts of milk per day, and which make from ten to sixteen pounds of butter in a week? Are not working oxen of handsomer appearance, better trained and more powerful? If you answer yes, as I believe you will with united voices, to what causes will you attribute the improvement? I ask honest, practical, discriminating farmers to what cause they can attribute the improvement but to the influence of Agricultural Societies, to the impulse they have given to enterprise, to the spirit of emulation they have awakened, and to the knowledge they have been the means of diffusing? The influence of such associations is not always direct and obvious; like that of the dew and the air, it is a blessing too common, noiseless and unostentatious, to be felt or acknowledged by the inconsiderate and unreflecting. There are few men who will be long content to follow a rough, hilly and circuitous path, while their neighbor travels a smooth, direct and pleasant road, which brings him with more expedition and safety to his journey's end: there are few farmers who will be content to toil and drudge from year to year in the same dull round which their fathers followed for a bare subsistence, while they see their more enterprising neighbors in the full tide of successful experiment, becoming richer and more prosper-

ous from having adopted the improved methods of husbandry. Does any farmer seriously complain that he has derived no benefit from Agricultural Societies, that he has not been instructed by their publications, that he has not been enlightened by the knowledge they have diffused? If that farmer has not connected himself with the Society, has not read its publications nor followed its recommendations, it would be no less unreasonable for him to complain that his corn would not vegetate before he had committed it to the earth and while it remained in his granary—it would be no less unreasonable than the complaint of the hypochondriac that he is not warmed by the sun, while he secludes himself in his chamber and bars his doors and his windows. Many farmers have suffered their minds to be prejudiced by an unfounded and an unreasonable distrust of Agricultural Societies, as encouraging and sanctioning book farming. It may not be unprofitable to inquire how books on husbandry are compiled. A practical farmer in Andover, for instance, has raised large crops of potatoes, another in Haverhill has had great success in the cultivation of rye, another in Newbury has raised superior wheat for successive years, and many other farmers in various parts of the country, have been successful in the cultivation of the several crops to which they have given particular attention; actuated by the scriptural injunction to "do good and communicate," they write detailed accounts of their several methods of cultivation, and send them to a common friend, a farmer well read and experienced; he carefully examines the communications, received from sources which he knows are entitled to confidence, he arranges them, winnows out the grain, and garners it up in a book. And now is there any thing like legerdemain or cunning in this? Is there any thing suspicious about it? Had you visited any one of the farmers who have made a communication, and witnessed with your own eyes his field luxuriant with the growing crop, or burdened with the ripened harvest, and heard the detail of his management, you would not have hesitated to believe his statement, nor to adopt his practice. The mere act of publishing it cannot make his statement the less deserving your confidence, nor the improvement the less valuable. We will suppose that for the purpose of making further inquiries and explanations, the gentleman to whom the communications were sent, invites his friends in the different sections of the country to meet him on an appointed day; they come together and discuss what methods of husbandry are best calculated to make abundant harvests, and freely express their opinion on all subjects connected with rural economy. These practical farmers derive so much pleasure and satisfaction from the interview, that they resolve to have regular meetings at stated intervals, and for the sake of encouraging experiments, and promoting improvements and industry, they determine, from funds in their possession, to offer premiums to successful competitors. Here is an Agricultural Society, and here is a Cattle Show. Is there in all this any thing of combination or treason? Is



there any thing which threatens the liberties of the people or the safety of the Commonwealth? Your Society has to contend with the coldness and indifference of its friends, rather than with the malice of its enemies—it has no open and declared enemies, and I am sure that you have no wish to conjure them up merely for the sake of giving them battle. You have beat your swords into ploughshares and your spears into pruning hooks—you delight more to train the vine than to bend the bow, to swing the scythe than to wield the lance. The well cultivated field is the field of the farmer's glory; his highest ambition, to improve it; if he has doubled the produce of his farm, he feels that he has achieved a nobler victory than if he had conquered armies or subdued empires. And we invite the yeomanry of the country to join in this honorable competition—we invite practical farmers, the men of broad shoulders, muscular arms and strong hands, to connect themselves with the Society, and by their experience and their example, to help in the promotion of its interests and the advancement of its prosperity. Your united efforts can make this institution an honor and a blessing to the whole farming community. Will you not use your endeavor to strengthen and sustain a Society which was formed for your advantage, and which subsists only for your benefit? In recommending to you to try experiments and to study the periodicals and books devoted to husbandry, I do not advise you to an universal and indiscriminate adoption of any man's rules or opinions. I would not have a farmer go into the field with a book in one hand and a hoe in the other; such a practice would lead him to the result of a certain visionary farmer who complained "that the carles and cart avers make it all, and the carles and cart avers eat it all"—the labor and expense of cultivation more than balance the value of the crop. But the farmer should read and ponder and deliberate; he should study and reflect, and adopt such rules and methods as he finds applicable to his own soil and circumstances. A judicious practice, enlightened by sound theory and science, will effect wonders for Agriculture, the mother and nurse of the arts, as it has done for all her children and dependants. Unless theory and practice walk hand in hand, mutually helping and encouraging each other, we cannot hope that Agriculture will keep pace with the improvements of the day, or that she will ever arrive to the perfection of which she is capable.

But let it not be inferred from these remarks, that the public interest in the subject of agriculture has declined, that the permanence of this Society is in danger, or that its prospects are less promising than they have been. This large and respectable assembly would contradict such an opinion; the long and regularly increasing list of members would confute it. The number of animals in your pens, the well contested ploughing match, the products of the dairy, the exhibition of manufactured articles, elegant and varied in their qualities, are satisfactory evidence that the usefulness and prosperity of your Society have

not declined. The fruits and flowers exhibited on this occasion are witnesses of the increasing interest in the object of your association, too welcome and beautiful to be overlooked. We hail these signs as omens of good for the future, not doubtful nor uncertain. From the examination of all these fruits and flowers, the products of the earth, the beasts of the field, the beautiful specimens of the cunning workmanship of ingenious hands—all made for man's use and enjoyment—from the liberal abundance of those well furnished tables, we have come up into this temple of the Lord to offer Him the incense of deeply affected and grateful hearts. By hymns, and solemn prayer, and thanksgivings, we have testified our gratitude for the regular return of summer and winter, seed time and harvest, for His loving kindness which has crowned the year, and for His tender mercies which are over all His works. But our professions of gratitude are like false blossoms on the vine, beguiling us with the hope of fruit, if they are not accompanied by grateful conduct as well as by grateful affections—they are like fungous ears on our corn stalks, fair in their outward appearance, but within full of all uncleanness, if they are not followed by obedient, virtuous lives. To a benevolent benefactor, a proper improvement of the gift is the most acceptable acknowledgment. Have we as farmers made such a practical acknowledgment for the blessings by which we are surrounded? Have we no neglected corner over which the lazy demon of sloth has long brooded in sluggish inactivity, and which the busy hand of industry would make as blooming and as fruitful as a garden? Have we no meadow abandoned to bulrushes, flags, and croaking frogs, which a little draining and dressing would cover with valuable crops? Are not our pastures infested with briars, thistles and bushes? Are there not in our fields hosts of weeds contending with the corn and potatoes for the mastery, and which will certainly gain the victory unless we come to the rescue? Are there by our walls no belts of bushes, every year making wider and wider encroachment upon our cultivated lands? Are there in our fields, no loose rocks and heaps of stones, obstructing the plough and the scythe, and, like blotches on the fair face of beauty, disfiguring the prospect? Have we no ruinous, dilapidated fences tempting cattle otherwise orderly and well behaved, to overleap the modesty of their nature, and to commit breaches against the peace of the neighborhood? Have we in our gardens no uninvited, intruding guests, plants which we have neither sowed nor watered, which we might offer as a most acceptable dessert to those epicureans of our establishment, who place the supreme good in pleasure—the pleasure of living at ease, of faring luxuriously, and of growing fat? Is it not our fault that these idlers have no better employment than to speculate and philosophize? Have we no rich alluvial deposits in ditches, swamp holes, or sunken meadows, from which we might make drafts that would return us a liberal interest? Have we no naked, hungry, exhausted fields with imploring accents

begging us to come and dress, feed and recruit them? In balancing our accounts, do we find that we owe no man aught except love and good will? Every good farmer finds it pleasant and profitable to keep a journal in which he notes every day's employments and incidents; in reviewing ours, do we find no necessary labor neglected? Is the place where our example and influence are most felt, a pattern of order and neatness, of well regulated economy as well as of a liberal abundance? Is the place where our affections centre, where we most wish to be loved and hope to be remembered, is our home, the happy abode of peace and harmony and contentment? Have we discharged our social and moral obligations—our duties to ourselves and to our neighbor? We profess admiration and gratitude for the air we breathe, for the sun that warms and enlightens and cheers us, for the innumerable comforts of our existence, for this spacious, beautiful, and convenient world; but have we been faithful to that portion of His vineyard over which God has set us as stewards and overseers? If we can make satisfactory responses to these questions, then have we cause for accumulated gratitude, that, in the disposition and ability to improve and enjoy, He has given us the crowning blessing.

An orator, with a mind well freighted with learning, or whose lighter imagination soars on bold, rapid, and graceful pinions, would lead his delighted audience back into distant ages, and over into foreign countries—he would tell you of Italy, once the garden of the world, now as degenerate in morals as in husbandry—of England, made one great specimen farm by thorough cultivation and plentiful manuring—he would talk to you of Parnassus, and Tempe, and Helicon, of the beauties of nature, the decorations of art, and the embellishments of fancy. But I will not affect the learning I have not—I will not borrow wings which would but betray my awkwardness in the use of them. And it is not with foreign climes, nor antiquity, it is not with poetry nor fiction, it is not with Hesperian lands nor with Eastern lands, that we, as farmers, have to do. Let us recall our wandering thoughts, and fix them on our own times and neighborhood, on our own farms and homes. It is enough for us to know that farming has always been an honorable pursuit when it has been honorably followed; that it will always be an honorable, profitable, and fashionable occupation as long as men continue the somewhat inelegant, but not altogether unpleasant or unnecessary habit of eating and drinking. Let farmers remember that they have inherited a character distinguished for sobriety, honesty, temperance, industry, frugality, and manly independence; let them strive to sustain and elevate this character.

But my friends, a grave charge has been preferred against us, seriously affecting our character as good farmers and honest men, and I fear too many of us must plead guilty. We have been called extortionate and austere—not precisely charged with robbing widows' houses or with reaping where we have not sown, but with extorting too



many crops from our fields without making them a due return, with exacting too much of them and of withholding their deserved wages: we have been accused of cropping our lands severely without cultivating and manuring them in any reasonable proportion, of mowing our fields many years in succession till their over taxed, exhausted energies can yield us nothing more. The high prices of labor and manure, and the difficulty of obtaining them, have been alleged as excuses for this thriftless and cruel practice, and there is something of truth and more of plausibility in the defence. As a remedy for these evils, and a sure way of improving your land, I can do nothing better than to recommend to you the method practised for several years with great success by Elias Phinney, Esq., of Lexington. A farmer should use his eyes as well as his hands—he should be willing to learn from the experience of others as well as from his own. From the fields of Lexington we may learn lessons of husbandry as well as lessons of patriotism. There is nothing selfish or exclusive in the feelings of an enlightened and enterprising farmer; with him, next to the pleasure of receiving information, is that of communicating instruction. Without offering an apology to Mr. Phinney, I shall make an extract from his Address delivered before the Society of Middlesex Husbandmen and Manufacturers in 1830; nor shall I ask your indulgence for using the sentiments and words of another, for this may be the only part of my remarks which needs no indulgence. "In May, 1828, the field (the soil of which is thin loam upon a gravelly sub-soil) having lain three years to grass, and the crop of hay so light as to be worth not more than the expense of making, with a view of ascertaining the quantity of vegetable matter upon the surface, I took a single foot square of green sward, and after separating the roots and tops of the grasses from the loam and vegetable mould, it was found on weighing to contain nine ounces of clear vegetable substance, giving, at that rate, over twelve and a quarter tons to the acre. This convinced me of the importance of taking some course, by which this valuable treasure might be turned to good account. That a great part of this vegetable matter is exposed to useless waste, by the usual mode of ploughing, cross ploughing and harrowing, must be obvious to any one. In order, therefore, to secure this, as well as the light vegetable mould at and near the surface, which is liable to waste from the same causes, I had two acres of the green sward of this field turned over with the plough as smoothly as possible. After removing the outside furrow slices into the centre of the plough-land, and thereby effecting the double purpose of covering the vacant space in the middle, and preventing ridges at the sides and ends, the field was rolled hard with a loaded roller, by which the uneven parts of the furrows were pressed down, and the whole made smooth. It was then harrowed lengthwise the furrow, with a horse harrow, but so lightly as not to disturb the sod. Twenty cart loads of compost manure, made by mixing two parts of

loam or peat mud with one of stable dung, were then spread upon each acre. It was then harrowed again as before, and then the poorer part of the soil, which had been turned up, and remained upon the surface, was thereby mixed with the compost manure. Corn was then planted in drills\* upon the furrows, the rows being at the usual distance and parallel with the furrow. At hoeing time the surface was stirred by running a light plough† between the rows, but not so deep, at this or the subsequent hoeing, as to disturb the sod. What Mr. Lorain calls the "savage practice" of hilling up the corn, was cautiously avoided. In the early part of the season, my cornfield did not exhibit a very promising appearance; but as soon as the roots had extended into the enriching matter beneath and began to expand in the decomposing sward, which had now become mellow, and more minutely divided by the fermentation of the confined vegetable substances beneath, than it could have been by the plough or hoe, the growth became vigorous, and the crop, in the opinion of those who examined the field, not less than seventy bushels of corn to the acre. As soon as the corn was harvested, the stubble was loosened up by running a light horse plough lengthwise, through the rows, the surface then smoothed with a bush harrow, and one bushel of rye, with a sufficient quantity of herd's grass and red top seed, to the acre, was then sowed, the ground again harrowed and rolled. The crop of rye was harvested in July following, and the two acres yielded sixty-nine and a half bushels of excellent grain, and over five tons of straw. The grass seed, sowed with the rye, took well, and the present season I took, what those who secured the crop judged to be two and a half tons of the very best of hay from each acre.

Thus, with one ploughing, with the aid of twenty cart loads of compost manure to the acre, I have obtained two crops of grain, and stocked the land down to grass."‡

The great object of the farmer is to obtain the most valuable products, with the least possible labor, and at the same time to keep his farm in a state of progressive improvement; by this method large crops have been obtained with a small expense of labor and manure—but some of little faith may object that it is the result of a single experiment, that there may have been something peculiar in the soil or the seasons, that with others it would have been a complete failure, and that most likely the land soon became exhausted. But Mr. Phinney has practised and continues to practice the same kind of husbandry with the same success, and with increasing confidence. The field on which he made the experiment which he has so clearly and satisfactorily detailed, has remained in grass till the present season, and has continued to yield two tons of good hay to the acre, without any top dressing. Other farmers have followed the same

\* It might be planted in hills, if that course is preferred.

† Mr. P. now uses the cultivator instead of the plough.

‡ William Clark, jun., of Northampton, and Daniel Putnam, of Danvers, have adopted similar methods of husbandry, and have been very successful.

method on a great diversity of soils, and although a plain field and a loamy soil may be best adapted to the purpose, there are none except very wet or very rough and rocky grounds which cannot be greatly improved by it. There is nothing unreasonable or unphilosophical in this method, and success would seem to follow it as naturally as effect follows cause. I know that there are many farmers who believe that the *good old way* is the best way, but let the most incredulous of these visit the farm of Mr. Phinney, which but fifteen years ago produced but nine tons of hay and which now produces seventy; let him go into those well mellowed fields and see the corn waving in its beauty and ripening into a golden harvest, yielding nearly one hundred bushels to the acre, and potatoes in equal abundance; let him witness all the improvements of that well managed and thoroughly cultivated farm, (which, in natural advantages, perhaps, does not exceed his own,) and that sceptical farmer, who went out hesitating and unbelieving, will come home with a settled conviction that Mr. Phinney is a farmer of great skill and enterprise, enlightened by a sound judgment: he will cheerfully admit that his method of cultivation is a great improvement, and he will apply it to his own farm as far as his circumstances will allow. I should not have dwelt so long on this subject, if, from my own observation and the experience of others, I had not been fully satisfied that the adoption of a similar method of husbandry would be beneficial to our own fields. Let the farmers of Essex try the experiment; the expense will be but trifling; the advantages may be great; and if, by chance, they should fail of success, they will have the satisfaction of having at least attempted an improvement.

The business of the farmer requires his constant care and inspection; he must not intrust it to another; if he expects his work to be well done, he must do it himself, or at least see it done. How many farmers have been misled by the notion that their respectability and consequence in society is commensurate with the number of their acres, forgetting that it is the *condition*, and not the *size* of their farms, which gives them a character. This desire to be considered the owner of a wide domain has been a fatal snare to many who might have enjoyed their homestead in peace and plenty—it has involved them in pecuniary embarrassments, which have driven them sorrowing from the very fields, perhaps, which their ancestors reclaimed from the wilderness, to seek for themselves and their little ones a habitation amongst strangers, or in some distant, solitary wild, where the voice of a stranger would be welcomed as the voice of a friend. When it is matter of choice, the best sized farm is that which the owner has skill, capital and energy to manage to the best advantage. A mistake similar to this, and of the same disastrous consequences, has led some farmers into extravagance in the size of their houses, extravagance in furnishing them, and extravagance in their style of living. How many kind hearted, pains taking, industrious farmers, forgetting that "it is the eyes of others, and not our own, which



ruin us," have been lured by the false glitter to rivet on the chains which have afterwards galled them to the quick! No man, except a landlord, wants a larger house than will accommodate his family, and occasionally his friends. Let every farmer, then, who is about to build, first sit down and count the cost, then let him consider at how much less expense a house of moderate size is furnished and kept in repair, and how much less labor is required in sweeping and scouring, (it will be prudent to make the calculation, although it may not be prudent to intermeddle with the operation); and then let him seriously reflect how small a house will hold his tried, valued, and true friends. A man of ample fortune will consult his taste—he may think that a large mansion, costly furniture, and a corresponding style of magnificence will increase his happiness—let him try it, for bank bills are as worthless as the seared and withered leaves that are put into circulation by an autumn gale, and specie as valueless as the pebbles washed by the waves of the sea, if they do not contribute to the happiness of their possessor, or if they are not in his hands the means of conferring happiness on others. But before the man of wealth indulges in such profusion, if he is a philanthropist, he will remember that his example may be followed by those who cannot so well bear the expense; if he is a father, he will remember that his children will hardly be content with any situation or manner of living inferior to those to which they have been used under the paternal roof.

If I had not already trespassed too far on your patience, I would speak of the importance of domestic manufactures, as affording the only ready and constant market for the surplus productions of your farms, and as indispensable to the real independence of the country—I would say something of the cultivation of mulberry trees and the rearing of silk worms, as affording a profitable and pleasant employment at home for those members of your family whose health and whose virtue might be too much exposed abroad. There are many other topics of domestic economy of great interest, but most of them have been learnedly, or what is better, practically, treated by gentlemen who have addressed you on former occasions. But there is one subject which is becoming so important, and the evils of which are so general and serious, that you will be disposed to allow it a moment's consideration. I mean the difficulty of obtaining experienced, able and faithful help. The complaint has been growing louder and more frequent, and a remedy is most desirable. But a few years since, for the reasonable compensation and the kind treatment they always deserve, we could easily find diligent and faithful young men and young women who were willing to afford us their assistance—and a mutual benefit was received and conferred, and readily acknowledged—it was an exchange of good offices; while they cheerfully gave us their assistance and attention in the labors of the farm and of the house, they were learning the principles of good husbandry and good housewifery—they were preparing

themselves for that station in life to which every young man and young woman should be looking forward, to the relation of husbands and wives, to the situation of masters and mistresses of families of their own. A well managed farm and a well regulated household are almost the only schools where this preparatory education can be acquired by the young; they must learn to obey before they can be fit to command; they must learn the lessons of good management before they can practise them. And let them be assured that there is nothing dishonorable or degrading in attending this school, or in learning these lessons, for there is no station or occupation which is not reputable when honorably followed, and they, and they only, are useful and worthy members of society who are engaged in some useful employment. Captivating as the charms of beauty may be, and fascinating as are some of the polite accomplishments, let no young woman rely so much on these means of obtaining admiration and securing affection, as on the ability to make herself useful; for although a lover may be blind, a husband has eyes—although music, and painting, and dancing, and embroidery may be very pleasant amusements, and afford gratification for a leisure hour, there are other hours besides those of dalliance and revelry, and other senses besides those of seeing and hearing—senses, too, which have more imperious demands; and there is danger that the wife or the mother who is not prepared to answer these constant demands, beautiful and elegantly accomplished though she may be, will not long appear graceful or lovely in the eyes of her husband. Some circumstances of fortune or station or delicacy of health may make it unnecessary or improper that a woman should perform active labor with her own hands, but there is no rank or station in which a lady can be placed where it is not desirable that she should know how the affairs of her household ought to be managed. I know that I give but cold and feeble utterance to the feelings of this Society in bidding a welcome, a cordial welcome, to that portion of the fairer and gentler sex who have honored this farmer's holiday with their presence—without their encouraging smiles and cheerful assistance, even farming would be dull business. I cannot offer for their consideration a better sentiment than that contained in the words of a learned, elegant, and distinguished foreign lady, who says, "the only celebrity that can increase a woman's happiness, is that which results from the esteem excited by her domestic virtues"—and I will add, there is no praise, no applause, no glory in the wide world more worthy a woman's ambition, than the fame of a well regulated household.

But pleasant, healthful, and indispensable as the labors of the field and of the kitchen and the dairy may be, and excellent as is the course of discipline, both for the body and the mind, there is danger that too many young men and women will prefer what they consider a more fashionable employment and a more elegant education. And you, as a Society, perhaps cannot do much to expose the mistake or to remedy the evil. It

has, however, occurred to me that it would be no perversion of your funds if you were to offer suitable premiums to such faithful, diligent, temperate, and skilful man or woman as had remained for one or more years in the employment of any member of the Society; besides, as an additional encouragement and reward for their faithfulness, they might receive the Society's certificate, accompanied by some useful treatise on rural economy or domestic duties, such as Fessenden's Complete Farmer, for the males, and Mrs. Child's Frugal Housewife, for the females, so that the very means of rewarding should be an encouragement and guide to greater excellence.

But if, as members of this Society, you can do but little to remedy the evil abroad, as members of a more limited society, you can do much to remedy it at home. Fathers and mothers, you stand at the fountain; with the lightest trace of your finger on the yielding soil you can give a direction to the infant stream. You can send it gliding down through verdant fields and flowery lawns, imparting new fertility and beauty, and anon contributing its strength to propel the complicated machinery of industry: or you can send it dashing, foaming over precipices, to join with other impetuous, headlong streams, carrying devastation in their course: or you can suffer it to roll its sluggish way into some stagnant pool, affording a refuge for loathsome reptiles, and poisoning the atmosphere with its pestilential vapors. In infancy, and at home, the deepest and most lasting impressions are made; your children may have able and faithful instructors, but there are many lessons of practical wisdom which are not taught in the schools. The mind of your child is constantly busy—he will be learning a lesson of you when you least think of it. To your child your remark is wisdom; your observation, experience; your opinion, sound doctrine; and your word a law; your child is learning a lesson from every look and action—but most of all, your example is educating your child. It is a book constantly open before him, and which he is constantly studying. Be careful, anxious father, fond mother, that you insert no page which hereafter you may wish to tear, no line you may wish to blot—be careful that you admit into that much read volume no sentiment which you are unwilling your child should transcribe on the fair tablet within his own innocent bosom.

Fear not that I am about, at this late hour, to inflict on you a lecture on general education. Schools, academies, and colleges have been founded for the education of the mind and the heart; to these we must leave them; but what has been done to encourage the education of the hand? The heart and the mind should indeed be enlightened, pure and undefiled, but the hand must be busy and skilful. The great secret of happiness consists in never suffering the energies to stagnate. Fortunately, in the farmer's business there is no want of constant employment—if you can accustom your children to patient and cheerful labor, you have secured for them the means of happiness and independence. In other stations of life there may be unfortunates,



\* Stretched on the rack of a too easy chair,  
Who, by their everlasting yawn, confess  
The pains and penalties of idleness"—

but this mortal sin should never invade a farmer's dwelling. In training your children to a willing industry, do not over-task their strength—let them feel that they can be useful, and that their assistance is valued.—There are various employments in the house, the garden, and the field, that are adapted to their tender years; never let their labor be such in kind or amount as shall make it disgusting, and if possible make them derive from their labor some compensation, in money or relaxation, or indulgence; never withhold the merited praise or reward. Accustom them never to expect another to do for them that which they can as well do for themselves, but to rely upon their own strength, and to trust their own energies.—Whatever may be their prospects in life, teach them to depend on their own resources. Help them to cultivate an affectionate, accommodating disposition, moderation in their expectations, and moderation in their pleasures. Teach them to reverence God and to love work—"neither to despise labor, nor husbandry, which the Most High has appointed." "Teach them to bear the yoke in their youth, and to do with all diligence whatever their hands find to do;" so shall you deserve their assistance in the management of your house and your farms; so shall you secure for them that competence and happiness of which the mischances of this world cannot deprive them. And when you shall have performed all life's duties and enjoyed all life's pleasures, when your earthly tabernacle shall fall into ruins, when your wearied frames shall find quiet repose beneath the soil you have faithfully cultivated, and when your spirits, like shocks of corn fully ripe, shall be gathered into store houses not made with hands, eternal in the heavens—your grateful children shall arise and bless your memory; they shall be living monuments which shall bear record that you laid for them, in early habits of patient, cheerful, and contented industry, the foundation for a manly, virtuous, and honorable independence.

#### TO BRIDGE BUILDERS.

Sealed Proposals will be received, until the 15th of April, for finding materials and building the superstructure of a bridge, over Harlem Creek and flats, on the New York and Harlem Railroad.

Said Bridge to be on the late improvement of Mr. Town, 24 feet wide in the clear, and 660 feet long between the abutments, to be supported by three piers of masonry. The bridge to be completed by the 1st of Nov. ensuing. Communications may be addressed to the undersigned, at his office, No. 9 Chambers street, where plans and specifications may be seen.

JOHN EWEN, Jr.

Engineer of the New York and Harlem Railroad.

9-15a

#### ALBANY EAGLE AIR FURNACE AND MACHINE SHOP.

WILLIAM V. MANY manufactures to order, IRON CASTINGS for Gearing Mills and Factories of every description.

Also—Steam Engines and Railroad castings of every description.

The collection of Patterns for Machinery, is not equalled in the United States.

9-1y

#### SMITH & VALENTINE,

#### STEREOTYPE FOUNDERS,

Are prepared to execute orders in their line, at 212 Grand street, New-York.

#### TO CONTRACTORS.

NOTICE is hereby given to all persons who may feel disposed to take Contracts on the Illinois and Michigan Canal, that the Board of Commissioners have determined to commence that work as early in the spring as circumstances will permit. The Engineers will commence their surveys about the 10th of March, and will have several Sections ready for contract by the first of May. It is therefore expected that definite proposals will be received from that date to the first of June. In the mean time the Board invite an early inspection of that part of the route to Chicago, and will afford any information that may be required of them.

All communications will be addressed to "The Board of Commissioners of the Illinois and Michigan Canal, at Chicago."

By order of the Board.

JOEL MANNING, Secretary.

January 20, 1836.

8-6t

THE NEWCASTLE MANUFACTURING COMPANY, incorporated by the State of Delaware, with a capital of 200,000 dollars, are prepared to execute in the first style and on liberal terms, at their extensive Finishing Shops and Foundries for Brass and Iron, situated in the town of Newcastle, Delaware, all orders for LOCOMOTIVE and other Steam Engines, and for CASTINGS of every description in Brass or Iron. RAILROAD WORK of all kinds finished in the best manner, and at the shortest notice.

Orders to be addressed to

Mr. EDWARD A. G. YOUNG,

Superintendent, at Newcastle, Delaware.

feb 20—ytf

#### AMES' CELEBRATED SHOVELS, SPADES, &c.

300 dozens Ames' superior back-strap Shovels  
150 do do do plain do  
150 do do do cast steel Shovels & Spades  
50 do do Gold-mining Shovels  
100 do do plated Spades  
50 do do socket Shovels and Spades.

Together with Pick Axes, Churn Drills, and Crow Bars (steel pointed), manufactured from Salisbury refined Iron—for sale by the manufacturing agents,

WITHERELL, AMES & CO.

No. 2 Liberty street, New-York.

BACKUS, AMES & CO.

No. 8 State street, Albany.

N. B.—Also furnished to order, Shapes of every description, made from Salisbury refined Iron. 4—ytf

#### PATENT RAILROAD, SHIP AND BOAT SPIKES.

The Troy Iron and Nail Factory keeps constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation, and now almost universal use in the United States, (as well as England, where the subscriber obtained a patent,) are found superior to any ever offered in market.

Railroad Companies may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y., July, 1831.

Spikes are kept for sale, at factory prices, by I. & J. Townsend, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water street, New-York; A. M. Jones, Philadelphia; T. Janviers, Baltimore; Degrand & Smith, Boston.

P. S.—Railroad Companies would do well to forward their orders as early as practicable, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

1J23am

H. BURDEN.

#### RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

Also, AXLES furnished and fitted to wheels complete at the Jefferson Cotton and Wool Machine Factory and Foundry Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to.

Also, CAR SPRINGS.

Also, Flange Tires, turned complete.

J8

ROGERS, KETCHUM, & GROSVENOR.

#### STEPHENSON,

Builder of a superior style of Passenger Cars for Railroad.

No. 264 Elizabeth street, near Bleecker street, New-York.

RAILROAD COMPANIES would do well to examine these Cars; a specimen of which may be seen on that part of the New-York and Harlem Railroad now in operation.

J26f

#### PROPOSALS

#### FOR THE REPUBLICATION OF THE REPORTS OF THE BALTIMORE AND OHIO RAILROAD COMPANY;

Condensed so as to include, together with other matter added thereto, all that is known at the present day of the location and the application of Motive Power and Machinery thereupon, accompanied with explanatory drawings. The whole being intended to serve as a Manual of the Railroad System, for the use of Civil Engineers, to which is prefixed a history of the Baltimore and Ohio Railroad Company.

The work, whose reports it is thus intended to republish, was the first of any extent commenced in this country for the purposes of general transportation; and its early history is but a series of experiments, costly to the Company which had it in charge, but furnishing results of the greatest value and importance to others. The character of the country through which the road passed, involved every species of excavation; and in the construction of the Railway, almost every mode was successively tried for the purpose of ascertaining the best. While portions of the road were straight, others were of the smallest admissible curvature, and the locomotive power employed had to be such, therefore, as was suitable to both cases. This led to a series of experiments in this department of the Railroad System, which has resulted in the production of Engines preferable to any in use elsewhere—equal in speed to the best imported, and far superior in efficient power. From all these circumstances, the reports of the Baltimore and Ohio Railroad, from its commencement to the present day, have been sought for by Civil Engineers for the sake of the knowledge which they contain, and the frequent demand for them has suggested to the subscriber their republication, with such additional matter as shall constitute a Manual of the Railroad System in the present state of knowledge on the subject.

The reports are now difficult to be procured, and but few complete sets are known to be in existence. While the proposed republication will therefore be of use to the profession of Civil Engineering, it will be the means also of preserving the records of a work whose importance and value are now universally appreciated. The work will be divided into five parts.

I. History of the Baltimore and Ohio Railroad Company.

II. The location of Railroads, including the principles of reconnaissances, general instrumental surveys, and location for construction.

III. The construction of Railroads, including the excavation and masonry and the construction of the Railway on the graduated surface, turn-outs, weighing, &c.

IV. The motive power including engines, cars, wagons, &c.

V. Forms of contracts for every species of work which has to be performed in the construction of a Railroad.

As it is not practicable to ascertain what sized volume or volumes the contemplated work will make, the price cannot be fixed, but Railroad Companies and individuals who may subscribe for it, may rest assured, that it will be made as reasonable as the nature of it will permit. Orders directed to

F. LUCAS, Jr. Publisher,

Jan., 1836. No. 133 Market street, Baltimore.

#### ARCHIMEDES WORKS.

(100 North Moor st. N. Y.)

New York, February 12th, 1836.

The undersigned begs leave to inform the proprietors of Railroads that they are prepared to furnish all kinds of Machinery for Railroads, Locomotive Engines of any size, Car Wheels, such as are now in successful operation on the Camden and Hoboken Railroad, none of which have failed—Castings of all kinds, Wheels, Axles, and Boxes, furnished at shortest notice.

H. R. DUNHAM & CO.

4—ytf

#### RAILWAY IRON.

95 tons of 1 inch by 1 inch, FLAT BARS in lengths of 14 to 15 feet, counter sunk holes, ends cut at an angle of 45 degrees, with splicing plates and nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

rough Iron Rims of 30, 33, and 36 inches diameter for Wheels of Railway Cars, and of 60 inches diameter for Locomotive Wheels.

Axles of 2 1/2, 3, 3 1/2, 4, 4 1/2, and 5 inches in diameter, for Railway Cars and Locomotives, of patent iron.

The above will be sold free of duty, to State Governments and Incorporated Governments, and the drawback taken in part payment.

A. & G. RALSTON,

9 South Front street, Philadelphia. Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use both in this country and Great Britain, will be exhibited to those disposed to examine them.

4—37 1mo 67